CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

Supplement to ENGINEERING NEWS. Thursday, May 21, 1903.

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PERSONAL.

Mr. Lester H. Robinson has been appointed City Engineer and Surveyor of Middletown, N. Y.

Mr. S. P. Adams has opened an office at 14 Princess St., Wilmington, N. C., to carry on a civil engineering practice.

Messrs. Ballantyne & Evans, Architects and Engineers, have moved their offices from 20 Nassau St. to 22 Pine St., New York.

Mr. R. H. Keays has accepted a position with the Illinois Central R. R. as Resident Engineer on the construction at Cairo, Ill.

Mr. James W. Pierce, Superintendent of Parks of Cambridge, Mass., has been elected City Engineer in place of Mr. Lewis M. Hastings.

Mr. C. F. Martin, for 30 years Superintendent of the Bellefontaine, O., water-works, has resigned. Mr. David Hennesey succeeds him.

Mr. C. W. Haines has been appointed Chief Engineer of the Richmond, Fredericksburg & Potomac Ry., with headquarters at Richmond, Va.

Messrs. C. T. Chamberlain, J. J. Cole and S. H. Lowenberg have been appointed members of the newly created Water-Works Commission of Natchez, Miss.

Mr. George W. Tonson, City Engineer of Toledo, O., has resigned to accept the position of General Manager of the Toledo Construction & Supply Co., of that city.

Mr. Lindley R. Woods has resigned as Superintendent of the Water Department of Everett, Mass., and Mr. Arthur W. Moynihan is appointed his successor.

Mr. David C. Henny, Civil Engineer, has been appointed the fifth member of the Board of Health of Alameda, Cal. The other four are members of the medical profession.

Mr. Lester W. Tucker, M. Am. Soc. C. E., is now associated with the firm of Thomas Lahey & Co., contractors, of Boston, Mass., in the capacity of Superintendent and Engineer.

Mr. J. G. Palmer has been promoted from U. S. Inspector to Junior Engineer and transferred from the Illinois & Mississippi Canal to Washington Barracks, Washington, D. C.

Mr. R. F. Van Doorn, formerly connected with the Struthers-Wells Co., of Warren, Pa., has become associated with the Titusville Iron Co. of Titusville, Pa., as General Sales Agent.

Mr. R. E. Orr has opened an office in the Barber Building at Joliet, Ill., for practice as a civil engineer. He was for some years Assistant Engineer on the Elgin, Joliet & Eastern R. R.

Mr. James A. Lister has been appointed Chief Inspector at Chicago for the Pittsburg Testing Laboratory, Ltd., and will have charge of all work under the Laboratory's inspection in the Chicago district.

Mr. J. B. Porter has resigned his position as Civil Engineer and Land Agent for the Fort Pitt Gas Co., Pittsburg, Pa., and has entered the contracting firm of R. M. Hays & Co., with headquarters in the House Bldg., Pittsburg.

Mr. James M. Hamilton has been appointed Chief Engineer of the Illinois, Iowa & Wisconsin Electric Ry. Co., newly incorporated, and is now located at East Dubuque, Ill. Mr. Hamilton has until recently been engaged in mining.

Mr. Geo. L. Wilson, M. Am. Soc. C. E., has resigned as Assistant City Engineer of St. Paul, Minn., which position he has held for the past 13 years, and has accepted the position of Engineer and Roadmaster for the Twin City Rapid Transit Co., operating the electric roads of St. Paul, Minneapolis and Stillwater, Minn. He is succeeded by Mr. C. L. Annan.

Mr. David Wilcox has been appointed President of the Delaware & Hudson R. R., succeeding Mr. Robert M. Olyphant, who retires to the directorate. Mr. Wilcox heretofore has been Vice-President and Counsel of the company.

Mr. F. G. Jonah, who was Chief Engineer of the Blackwell, Enid & Southwestern R. R. during its construction, has been appointed Assistant Engineer of the St. Louis & San Francisco Ry. at New Orleans, that company having absorbed the first-named.

Mr. J. Carroll Barr, Assoc. M. Am. Soc. C. E., will discontinue his private practice to accept the position of Engineer for the Liberty Land Co., of Pittsburg, Pa. This company proposes to develop a large tract of land in the Pittsburg District known as the Economy tract.

Mr. C. W. Swearingen, City Engineer of Great Falls, Mont., resigned May 11. Mr. Swearingen has been connected with the office at Great Falls for 11 years, nearly ten years of which time he has served as City Engineer. He is succeeded by Mr. D. L. Ellis, formerly Assistant Engineer.

Mr. A. T. Mosman, M. Am. Soc. C. E., Assistant United States Coast and Geodetic Survey, has been assigned by the Superintendent of the Survey to direct the triangulation of Greater New York for the co-ordination of the city surveys, and has established an office at 189 Montague St., Brooklyn.

Mr. T. L. Condron, M. Am. Soc. C. E., 1750 Monadnock Block, Chicago, has become the Chicago representative of the St. Louis Expanded Metal Fireproofing Co. for the states of Indiana, Illinois, Wisconsin and Michigan, for the sale of the company's corrugated steel bars for reinforcing concrete. He will continue to represent the Pittsburg Testing Laboratory, Ltd., in Chicago.

Mr. Charles W. Buchholz has resigned as Chief Engineer of the Erie R. R. and is appointed Consulting Engineer to the company. Mr. W. L. Deer is appointed Acting Chief Engineer. Mr. A. M. Mozier is appointed Superintendent of Transportation of the Erie R. R., succeeding Mr. J. F. Maguire, transferred. The headquarters of all the above named are at 21 Cortlandt St., New York.

Col. Thomas W. Symons, Corps of Engineers, U. S. A., formerly in charge of the district of Buffalo, and who was recently assigned to duty in Washington, D. C., was presented with a silver tea service and a gold watch by the citizens of Buffalo, N. Y., on May 11, as a token of appreciation of the work done in that district under his supervision. The presentation took place on the floor of the Buffalo Merchants' Exchange, and was witnessed by more than a thousand residents of the city.

The scientific work of the Ziegler Arctic expedition which will leave Trondjhem under the command of Mr. Anthony Fiala in June, will be conducted by Messrs. R. R. Tafel, of Philadelphia; Charles L. Seitz, of Evansville, Ind.; William J. Peters, of Washington, representing the National Geographical Society, who will rank next to Mr. Fiala; Dr. George Shorkley, of Camden, Me.; J. Colin Vaughn and Charles E. Rilliet, of St. Louis; Francis Long, of Brooklyn, who will be the meteorologist; John Vedoe, of Boston; Spencer W. Stewart, of Brooklyn, and Harry H. Newcomb, of Milford, Mass.

OBITUARY.

Mr. William Kennedy Park, for 20 years Chief Engineer of the City Gas Works of Philadelphia, Pa., died at his home in that city last week, aged 65 years.

Mr. Newton Webster, of Baltimore, Md., and Mr. Lee Denphy, of Towson, Md., were drowned on May 15 while swimming in the Chesapeake & Ohio Canal at Cumberland, Md. Both were connected with the engineer corps of the Baltimore & Ohio R. R.

Mr. Jeremiah A. Farrington, General Purchasing Agent of the Boston & Maine R. R., died at his home in Portsmouth, N. H. He was born in Conway, N. H., in 1843. He was a civil engineer, and at one time was Superintendent of the Portsmouth Machine Co. He acted as the consulting engineer of the present water-works of Portsmouth.

Mr. Ezra T. Gilliland, a director of the Bell Telephone Co., and the inventor of many of the improvements of the American Bell telephone, died at his home in Pelham Manor, N. Y., on May 13, of Brights disease, aged 56 years. Mr. Gilliland was an associate of Mr. Thomas A. Edison. He was also connected with the Gilliland Electrical Co., of Adrian, Mich.

Mr. Edmund D. Libby, M. Am. Soc. C. E., lately U. S. Assistant Engineer on works for the improvement of the Mississippi River, directed from the U. S. Engineer's Office at St. Louis, Mo., died in Concord, N. H., of consumption on April 24. Mr. Libby graduated from Dartmouth College in 1879 and from the Thayer School of Civil Engineering in 1882. He served for the most part on the improvement of the Mississippi River, but during the year 1887 to 1888 he was Superintendent of Bridge Shops of the Edgemoor Iron Co., and afterwards Assistant Engineer on the New York, Providence & Boston and N. Y., N. H. & H. railroads. In 1893 he returned to his preferred work. He was a faithful and conscientious officer and engineer, a man of few words, sensitive of every claim of duty. His modesty prevented a wider recognition of his abilities and sterling character.

Mr. William G. McNeil Thompson, formerly Superintendent of the Welland Canal, died at his home in St. Catherines, Ont., on May 11, aged 70 years. He was a civil engineer. During the building of the canal he had charge of the construction of the southerly portion and later was superintending engineer of the construction of the Canadian canal at Sault Ste. Marie. In 1890 he was appointed Superintending Engineer of the Welland Canal, which position he held until two years ago.

Mr. Benjamin F. Jones, Sr., member of the Advisory Board of the Jones & Laughlin Steel Co., Ltd., of Pittsburg, Pa., died at his home in Allegheny on May 19. Mr. Jones had been for many years head of the manufacturing interests conducted by that company, and was one of the first representatives of industrial development in the Pittsburg district. He was born in Claysville, Pa., in 1824; was educated in New Brighton, Pa.; and at 19 years of age entered the employ of the Mechanics' Line of canal boats as assistant shipping clerk without compensation. Samuel Kier, chief owner of the line, took an interest in him, and when he established an independent line of section boats to run between Pittsburg, Philadelphia and Baltimore, he made Mr. Jones the manager of the line. In 1847 he became a partner, and continued to operate the line until 1854. While engaged in this business Mr. Jones with Mr. Kier established an iron furnace in the Allegheny Mts. near Armagh, Pa. Later he became interested in the American Iron Works which were being built by Bernard Lauth, and the firm became that of Jones, Lauth & Co. In 1852 Mr. Jones took the management of the works upon his shoulders, and two years later Mr. James Laughlin was admitted to the partnership, the firm later taking the name of Jones & Laughlin. The Jones & Laughlin Co., Ltd., was reorganized on Aug. 1, 1902, and became the Jones & Laughlin Steel Co. Mr. Jones then retired from the head of the company, and his son, Mr. B. F. Jones, Jr., succeeded him. The retiring president remained on the Board of Directors. Although 79 years of age, Mr. Jones had been in rugged health until April 29, when he was seized with an attack of indigestion. The day before he died he had planned with Mrs. Jones to celebrate their 53d anniversary of married life May 21. He took an interest in politics from his youth, and was Chairman of the National Committee from Pennsylvania during the campaign of James G. Blaine for the presidency in 1884.

ENGINEERING SOCIETIES

COMING MEETINGS.

NATIONAL ELECTRIC LIGHT ASSOCIATION.
May 26, 27 and 28. Convention at Chicago, Ill. Secy., James B. Cahoon, 136 Liberty St., New York city.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
June 8. Annual convention at Asheville, N. C. Secy., C. W. Hunt, 220 W. 57th St., New York.

AMERICAN FOUNDRYMEN'S ASSOCIATION.
June 9, 10, 11. Annual convention at Milwaukee, Wis. Secy., Richard Moldenke, P. O. Box 432, New York city.

INTERNATIONAL ASSOCIATION OF CAR ACCOUNTANTS AND CAR SERVICE OFFICERS.
June 17, 18. Annual meeting at Quebec, Canada. Secy., L. G. Corcoran, Buffalo, N. Y.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
June 22 to 26. Annual meeting at Saratoga, N. Y. Secy., Prof. F. R. Hutton, 12 West 31st St., New York city.

AMERICAN WATER-WORKS ASSOCIATION.
June 23 to 26. Annual meeting at Detroit, Mich. Secy., J. M. Diven, Elmira, N. Y.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.
June 24, 25, 26. Annual convention at Saratoga Springs, N. Y. Secy., J. W. Taylor, Rookery Building, Chicago.

MASTER CAR BUILDERS' ASSOCIATION.
June 29, July 1. Annual convention at Saratoga Springs, N. Y. Secy., J. W. Taylor, Rookery Building, Chicago.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
June 29, July 2. Annual convention at Niagara Falls, N. Y. Secy., R. W. Pope, 95 Liberty St., New York.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
July 1, 2, 3. Annual convention at Niagara Falls, N. Y. Secy., C. A. Waldo, Purdue University, Lafayette, Ind.

AMERICAN SOCIETY FOR TESTING MATERIALS.
July 1, 2, 3. Annual meeting at Delaware Water Gap, N. J. Secy., E. Marburg, University of Pennsylvania, Philadelphia.

AMERICAN PARK AND OUTDOOR ART ASSOCIATION.
July 7, 8, 9. Annual meeting at Buffalo, N. Y. Secy., C. M. Robinson, Rochester, N. Y.

AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS.
July 17, 18. Annual convention at Niagara Falls, N. Y. Secy., W. M. Mackay, P. O. Box 1,818, New York city.

AMERICAN STREET RAILWAY ASSOCIATION.
Sept. 2 to 4. Annual convention at Saratoga Springs, N. Y. Secy., T. C. Penington, 2020 State St., Chicago, Illinois.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—Cincinnati Chapter.—On May 13 a reception was held to which 250 prominent civil and mechanical engineers of Cincinnati and vicinity were invited. Mr. B. J. Arnold, M. Am. Inst. Elec. E. of Chicago, was the guest of honor and gave a resumé of his report on the Chicago transportation problem.

FRANKLIN INSTITUTE.—Recently announced meetings included the following papers: Meeting of May 20, Mr. H. Souder on "Cuba of To-day: Engineering Notes and Impressions"; Mr. H. W. DuBois on "Reconnoissance Methods of Surveying in a Mountainous District"; Mr. S. F. Sautier on "Fireproofing Wood." Meeting of May 28, Mr. F. H. Thomas on "Static Discharges on Electric Circuits."

MASTER MECHANICS AND MASTER CAR BUILDERS.—The coming annual conventions of these two associations, which were planned and announced to be held at Mackinac Island in June, have been changed to Saratoga, N. Y., and at the same time slightly shifted as to date. The corrected announcement appears above. The reason for the change was the discovery that the hotel accommodations at Mackinac are entirely inadequate for the number of convention visitors expected. At Saratoga, where the conventions have been held for a number of years past, the accommodations are ample.

PACIFIC COAST RAILWAY CLUB.—On the evening of June 6 the club will hold a dinner at the Palace Hotel, San Francisco, Cal., at which function men prominent in railway circles of the Pacific coast will assist. The special feature of the occasion will be the announcement of the winners of the club's recent prize competition for papers on railways. The annual meeting of the club occurred on May 16. (The result of the election of officers will be noted in this column in a subsequent issue.—Ed.) Mr. W. N. Best read a paper on "Modern Equipment of Locomotives for the Prevention of Smoke, Using Coal or Oil as Fuel."—Secy., C. C. Borton.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—A remarkably comprehensive list of papers was scheduled for the regular meeting of May 19, as follows: "Advance in Modern Steel Construction," by Mr. L. S. E. Hildner; "Nickel Steel for Structural Purposes," by Mr. Watson; "Steel Forgings," by Mr. T. D. Lynch; "Some Characteristics of Good Forging," by Mr. J. H. Baker; "Drop Forging," by Mr. D. Goddard; "Steel Castings as Used in Modern Construction," by Mr. D. MacDougall; "Properties of Wire Used in Telephone Work," by Mr. R. A. L. Snyder; "Cold Rolled Steel," by Mr. J. J. Crane. The society holds an informal dinner preceding each regular meeting, at the Union restaurant, Frick Building, as a means of promoting mutual acquaintance among the members.—Secy., C. W. Ridinger, 410 Penn Ave., Pittsburg.

NEW YORK RAILROAD CLUB.—At the last regular meeting of the present season, held on May 15, Mr. W. W. Wheatly presented a paper on "The Transportation Problem in New York City." The author outlined the growth of the problem as evidenced by the census figures and the figures of traffic on the elevated and surface roads. It seems that in the past ten years the population tributary to the city has increased about 40%, while the volume of traffic has increased 100%. The concentration of traffic at certain points and certain hours has increased even more, due largely to the great growth of high buildings. All the traffic facilities of the city are now taxed to their utmost limit of capacity. Starting with this condition, the author then discussed at length the nature of the transportation problem to be solved in New York city, how far the various questions involved have been considered, and what lines the development of transportation facilities will follow. This was of particular interest in view of the fact that all the additional facilities now under construction or authorized will probably be taxed to their capacity by the time they are all completed, say in five or six years; and from the further fact that the conditions in New York, due to its shape and arrangement, are sufficiently different from those of other large cities to make the methods applicable there of no value here.

In discussion Mr. M. N. Forney contributed interesting historical information in regard to the age of this problem in New York, and concluded in a semi-humorous argument for lower fare for strap-holders, or as he expressed it "half fare or a seat on demand." The further discussion brought out many suggestions for the improvement of surface railway traffic, such as double-deck cars, etc. President Vreeland, in replying to these suggestions, showed their utter uselessness, or rather impossibility, under the close traffic conditions as in New York city. An amusing recognition of the interest which the public has in street railway questions was made by Mr. Vreeland (President of the Interurban Transit Co.) when a member who rose to discuss the paper expressed doubt whether it is within the province of a steam railroad man to criticise street railways: Mr. Vreeland said, with emphasis, "It is within the province of every man, woman and child in the United States to criticise street railways." A noteworthy fact brought out was that the entire steam railways of the United States and Canada transported less passengers in the past year than did the transit lines of the boroughs of Manhattan and Bronx, New York, counting only cash fares, with all transfers deducted. The use of pushbuttons for signaling to the conductor, which had been tried on one entire line of the surface railways in New York had to be discontinued because the longer stops which resulted congested this line so that it could not handle its traffic.—Secy., F. M. Whyte, Grand Central Station, New York city.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—The annual meeting for the transaction of business was held on the evening of May 19, at the house of the American Society of Mechanical Engineers, 12 W. 31st St., New York. The count of the letter ballot election of officers for the coming year was announced, showing the following elected: President, Mr. B. J. Arnold; Vice-Presidents, Messrs. C. W. Rice, W. S. Barstow and R. D. Mershon; Managers, Messrs. S. Sheldon, A. H. Armstrong, W. C. L. Eglin, and G. F. Sever; Treasurer, Mr. G. A. Hamilton; Secretary, Mr. R. W. Pope. These gentlemen will come into office in September next.

President Scott then outlined in some detail the operations preliminary and subsequent to Mr. Andrew Carnegie's offer of "say $1,000,000" for a union engineering building. The most recent action in this matter was an informal meeting of the councils of the various societies interested, on May 15, when a set of resolutions concerning the offer was unanimously adopted for submission to the members of the societies, and each society was authorized to appoint a delegation of three members to act with the delegations of the other societies in everything concerning the building matter.

The council of the American Institute of Electrical Engineers appointed Messrs. C. F. Scott, B. J. Arnold and S. S. Wheeler as delegates. A number of congratulatory letters on the subject of Mr. Carnegie's offer was then read. Mr. T. A. Edison expressed hearty congratulations and "hopes all the societies will unite" in utilizing the gift. Mr. A. E. Kenelly expressed the thought that the gift would bring the societies into closer coöperation, and hoped for a speedy realization of the scheme. He regards the gift as a benefit not only to engineers but to humanity. Mr. C. Hering wrote that it was the "duty of every member to assist in carrying out" the plan before them. Mr. W. A. Anthony hopes "that nothing will prevent favorable action."

Coming now to the financial condition of the American Institute of Electrical Engineers as affecting the execution of the plan, President Scott said it was in a different position from the other societies, that it had spent its money, that every committee had run to the limit of its appropriation and could use more. The society needed to raise a fund of $150,000 to $200,000 to enable it to take over its share in the expense of land, etc,. and it was hoped to raise such a fund by contributions and subscriptions within the society as far as possible. Letters were read from Mr. Frank J. Sprague contributing $2,000, from Prof. Elihu Thomson contributing $5,000, from Mr. J. G. White contributing $1,000 (with $1,500 more contingent if the whole fund is raised by subscription and contributions); the president also announced that some of the companies engaged in electrical work would probably contribute, and that Vice-President Osborne of the Westinghouse Electric & Mfg. Co. had already pledged that company for $5,000.

A cablegram to Mr. Carnegie, expressing the society's acceptance and appreciation of its share in the gift, was drawn up by Mr. T. C. Martin and was voted to be sent, after the society had adopted a resolution, presented by its board, formally accepting on its part the gift of Mr. Carnegie.

The regular technical program of the meeting was then begun. Three papers were presented. "The Experimental Basis for the Theory of the Regulation of Alternators," by Mr. B. A. Behrend; "A Study of the Heyland Machine as Motor and Generator," by Prof. C. A. Adams; and "The Compounding of Self-Excited Alternating Current Generators for Variation in Load and Power Factor," by Mr. A. S. Garfield. The paper of Mr. Behrend attacked Section 71 of the Standardization Rules of the society, which section gives a rule for determining the voltage regulation of alternators, and showed by numerous examples that it gave results seriously in error in the "optimistic" direction. Another well-known method of calculating regulation was in error in the "pessimistic" direction, giving values for the regulation which were too poor (voltage variation too high). He emphasized the fact that electrical engineering is an art and not a mathematical science, also that consulting engineers often specify impossible regulation in alternators. The paper of Prof. Adams was a recital of numerous experiments which he had made on a compensated induction motor of the Heyland type, and concluded that this machine was not likely to see much use in America. Mr. Garfield's paper described the arrangement and operation of the Latour induction machine, which is similar to the Heyland motor.

Unfortunately so much time was consumed in abstracting the papers, especially by Prof. Adams, that but few members were left to discuss the papers, and practically no discussion took place.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
May 21.	Filter plant,	Yonkers, N. Y.	Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 21.	Building,	St. Louis, Mo.	Apr. 30
May 21.	Pumping plant, etc.,	Martinsburg, W. Va.	Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 21.	Lock irons,	Wheeling, W. Va.	Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 21.	Bridge,	Omaha, Neb.	
May 21.	Subway,	Washington, D. C.	May 7
May 21.	Steam heating plant,	Lafayette, Ind.	May 7
May 21.	Paving,	Saginaw, Mich.	May 14
	Advertised, Engineering News, May 14.		
May 21.	Bridge,	New York, N. Y.	May 14
May 21.	Paving,	North Adams, Mass.	May 14
	Advertised, Engineering News, May 14.		
May 21.	Bridge work,	Spokane, Wash.	May 14
May 22.	Piers,	New York, N. Y.	May 14
May 22.	Subway,	Montreal, Que.	May 14
May 22.	Gravel road,	Marion, Ind.	May 14
May 22.	Building,	Pipestone, Minn.	May 14
May 22.	Sewer,	Wilmington, Del.	May 7
	Advertised, Eng. News, May 7 and 14.		
May 22.	Sewer,	Fairhaven, Conn.	May 7
	Advertised, Eng. News, May 7 and 14.		
May 22.	Bridges (3),	Indianapolis, Ind.	May 7
May 22.	River improvement,	Philadelphia, Pa.	Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 22.	Meters, engines, etc.,	Washington, D. C.	Apr. 23
	Advertised, Eng. News, Apr. 23, 30, May 14.		
May 22.	Sinking well,	Denver, Colo.	May 21
May 23.	Boilers,	Washington, D. C.	May 21
May 23.	Pork packing factory,	Toronto Junc., Ont.	May 21
May 23.	Electric plant, franchise,	Martinsville, Va.	May 14
May 23.	Cast-iron water pipe,	Washington, D. C.	May 14
	Advertised, Engineering News, May 14.		
May 23.	Water filtration plant,	New Haven, Conn.	May 14
	Advertised, Engineering News, May 14.		
May 23.	Bridges (3),	Birmingham, Ala.	May 14
May 25.	Lumber, etc.,	Norfolk, Va.	May 7
	Advertised, Eng. News, May 7 and 21.		
May 25.	Remodeling,	Plattsburg, N. Y.	May 14
May 25.	Steam heat,	Celina, O.	May 14
May 25	Paving,	Elmira, N. Y.	May 14
May 25.	Brick and cement,	Los Angeles, Cal.	May 14
May 25.	Building,	New York, N. Y.	May 14
May 25.	Paving,	Fort Slocum, N. Y.	May 14
	Advertised, Engineering News, May 14.		
May 25.	Wharf work,	Tompkinsville, N. Y.	May 14
	Advertised, Eng. News, May 14 and 21.		
May 25.	Electric light plant,	Jackson, Miss.	May 14
May 25.	Water-works,	Cando, N. Dak.	May 14
May 25.	Electric wiring,	Lockport, N. Y.	Apr. 23
May 25.	Rock excavation,	Boston, Mass.	Apr. 23
	Advertised, Eng. News, Apr. 23, 30, May 7, 21.		
May 25.	Dredging, etc.,	New York, N. Y.	Apr. 30
	Advertised, Eng. News, Apr. 30 to May 28.		
May 25.	Dredging,	Norfolk, Va.	Apr. 30
	Advertised, Eng. News, Apr. 30 to May 14.		
May 25.	Ditch,	Council Bluffs, Ia.	Apr. 30
May 25.	Paving,	Plymouth, Ind.	May 7
May 25.	Spur track,	Chattanooga, Tenn.	May 7
	Advertised, Eng. News, May 7 and 14.		
May 25.	Building,	Livingston, Tex.	May 21
May 25.	Sanitary work, etc.,	New York, N. Y.	May 21
May 25.	Building,	New York, N. Y.	May 21
May 25	Sewers,	Indianapolis, Ind.	May 21
May 25.	Street lighting,	Oakland, Cal.	May 21
May 25.	Water-works,	Strasburg, O.	May 21
May 26.	Building,	Indian Head, Md.	May 21
May 26.	Paving,	Jefferson, Wis.	May 21
May 26.	Water-works,	Alva, Okla.	May 7
May 26.	Power plant equipment,	Washington, D.C.	May 7
May 27.	Sewerage,	Argentina (Foreign)	Apr. 23
May 27.	Dam work,	Rock Island, Ill.	Apr. 30
	Advertised Eng. News, Apr. 30 to May 28.		
May 27.	Portland cement, etc.,	Norfolk, Va.	May 7
	Advertised, Eng. News, May 7 to 21.		
May 25.	Bridges (5),	Brookings, S. Dak.	May 14
May 26.	Building,	Baltimore, Md.	May 14
May 27.	Garbage collection,	Hoboken, N. J.	May 14
May 27.	Levee,	Terre Haute, Ind.	May 14
May 27.	Sewers,	Sunderland, Mass.	May 14
	Advertised, Eng. News, May 14 and 21.		
May 27.	Power house, etc.,	Rochester, N. Y.	May 14
	Advertised, Engineering News, May 14.		
May 27.	Building,	Aberdeen, S. Dak.	May 21
May 27.	Water-works,	Elgin, Tex.	May 21
May 27.	Paving,	Hoboken, N. J.	May 21
May 27.	Pipe, valves, etc.,	Grand Rapids, Mich.	May 21
	Advertised Engineering News, May 21.		
May 28.	Building,	Edmonton, N. W. T.	May 21
May 28.	Building,	New York, N. Y.	May 21
May 28.	Paving,	New York, N. Y.	May 21
May 28.	Paving,	Sandy Hill, N. Y.	May 21
	Advertised, Engineering News, May 21.		
May 28.	Paving,	Salem, Ind.	May 21
May 28.	Bridge work,	New York, N. Y.	May 21
May 28.	Reservoir,	Philadelphia, Pa.	May 21
	Advertised, Engineering News, May 21.		
May 28.	Boilers, (W.-W.),	White Plains, N. Y.	May 21
May 28.	Fence work,	New York, N. Y.	May 21
May 28.	Parapet wall, etc.,	New York, N. Y.	May 21
May 28.	Sewer system,	Chattanooga, Tenn.	May 14
May 28.	Building,	Fort Wadsworth, N. Y.	May 7
May 28.	Garbage crematory,	Winthrop, Mass.	May 7
May 28.	Building,	Tompkinsville, N. Y.	Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
May 29.	Paving,	Lorain, O.	May 7
May 29.	Bridges (2),	Sedan, Kan.	May 7
May 29.	Broken stone, etc.,	Duluth, Minn.	May 7
	Advertised, Eng. News, May 7 to 28.		
May 29.	Electric elevators,	Washington, D. C.	May 14
May 29.	Building,	Fort Myer, Va.	May 14
May 29.	Sewers,	Aberdeen, S. Dak.	May 14
May 29.	Sea wall,	Washington, D. C.	May 14
May 29.	Building,	Chicago, Ill.	May 21
May 29.	Water and sewer systems,	Washington, D.C.	May 21
May 29.	Bridge work,	Sedan, Kan.	May 21
May 29.	Garbage disposal, etc.,	Buffalo, N. Y.	May 21
May 29.	Bridge,	Fletcher, Ont.	May 21
May 30.	Building,	Beresford, S. Dak.	May 21
May 30.	Bridge,	Alexandria, La.	May 21
May 30.	Light-house protection,	Mobile, Ala.	May 7
	Advertised, Eng. News, May 7 to June 4.		
May 30.	Beacons,	Mobile, Ala.	May 7
	Advertised, Eng. News, May 7 to June 4.		
May 30.	Harbor improvements,	Jamaica.	Apr 2
	Advertised, Eng. News, Apr. 2 to May 14.		
Jun. 1.	Coaling plant,	Alaska (U. S. Pos.)	Apr. 16
Jun. 1.	Bridge,	Gettysburg, Pa.	Apr. 23
Jun. 1.	Electric plant plans,	San Diego, Cal.	Apr. 30
	Advertised, Eng. News, Apr. 30 to May 28.		
Jun. 1.	Building,	Monticello, Miss.	Apr. 30
	Advertised, Engineering News, Apr. 30.		
Jun. 1.	Building,	Montgomery, Ala.	Apr. 30
	Advertised, Eng. News, Apr. 30 and May 7.		
Jun. 1.	Building,	New York, N. Y.	May 14
Jun. 1.	Building,	Vancouver, Wash.	May 14
Jun. 1.	Paving,	Augusta, Ga.	May 14
	Advertised, Eng. News, May 14 to 28.		
Jun. 1.	Sewers,	Lestershire, N. Y.	May 14
	Advertised, Eng. News, May 14 and 21.		
Jun. 1.	Sewers,	Cuba, N. Y.	May 14
	Advertised, Engineering News, May 14.		

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

Jun. 1. Building, Dayton, O. ..... May 14
Jun. 1. Electric lighting, Lebanon, Pa. ..... May 14
Advertised, Eng. News, May 14 and 21.
Jun. 1. Water-works, etc., San Diego, Cal. ..... May 14
Jun. 1. Paving material, Haverhill, Mass. ..... May 21
Advertised, Engineering News, May 21.
Jun. 1. Paving, Bluffton, Ind. ..... May 21
Jun. 1. Paving, Ellwood, Ind. ..... May 21
Jun. 1. Bridges (2), Vernon, Ind. ..... May 21
Jun. 1. Sewer, Woonsocket, R. I. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 1. Bridge, Mississippi City, Miss. ..... May 21
Jun. 1. Bridge, Chehalis, Wash. ..... May 21
Jun. 1. Bridge, Hay, Ont. ..... May 21
Jun. 1. Electric light plant, Fertile, Minn. ..... May 21
Jun. 1. Street lighting, Corry, Pa. ..... May 7
Advertised, Engineering News, May 7.
Jun. 1. Street lighting, Frederickton, N. B. ..... May 21
Jun. 1. Building, Newberry, S. C. ..... May 21
Jun. 1. Paving, Versailles, Ind. ..... May 21
Jun. 2. Roads, Princeton, Ind. ..... May 21
Jun. 2. Bridge, Quincy, Fla. ..... May 21
Jun. 2. Riveted pipe, etc., Richmond, Va. ..... May 21
Advertised, Engineering News, May 21.
Jun. 2. Vessel repairs, New York, N. Y. ..... May 21
Jun. 2. Building, Danville, Ill. ..... May 14
Jun. 2. Paving, Fort Monroe, Va. ..... May 14
Jun. 2. Building, Hamburg, Ark. ..... May 14
Jun. 2. Gravel road, Bluffton, Ind. ..... May 14
Jun. 2. Bridge, Red Lodge, Mont. ..... May 14
Jun. 2. Electric light plant, Pueblo, Colo. ..... May 14
Jun. 2. Street railway, Columbus, O. ..... May 14
Advertised, Eng., News, May 14 and 21.
Jun. 3. Building, Springfield, O. ..... May 14
Jun. 3. Bridge, Oak Ridge, La. ..... May 14
Jun. 3. Pile revetment, Milwaukee, Wis. ..... May 7
Advertised, Eng. News, May 7 to June 4.
Jun. 3. Canal work, Newport, R. I. ..... May 21
Jun. 3. Building, Phoenix, Ariz. ..... May 21
Jun. 3. Water-works bonds, Clayton, Ala. ..... May 21
Advertised, Eng. News, May 21 to Jun. 18.
Jun. 4. Roads, Paoli, Ind. ..... May 21
Jun. 4. Sewers, Ansonia, O. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 4. Water gates, etc., Yonkers, N. Y. ..... May 21
Advertised, Engineering News, May 21.
Jun. 4. Bridge, Fort Benton, Mont. ..... May 21
Jun. 4. Light-house, Baltimore, Md. ..... May 7
Advertised, Engineering News, May 7.
Jun. 4. Building, Scranton, Pa. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 4. Building, San Francisco, Cal. ..... May 14
Jun. 5. Steel bull, Grand Rapids, Mich. ..... May 7
Advertised, Eng. News, May 7 to June 4.
Jun. 5. Building, Mountain Lake, Minn. ..... May 21
Jun. 5. Bridge, Grand Rapids, Mich. ..... May 21
Advertised, Engineering News, May 21.
Jun. 6. Building, Charlestown, S. C. ..... May 21
Jun. 6. Concrete walks, Fort Mott, N. J. ..... May 21
Jun. 6. Bridge, Oroville, Cal. ..... May 21
Jun. 6. Sewer system, Washington, D. C. ..... Apr. 23
Advertised, Eng. News, Apr. 23 to May 14.
Jun. 6. Electric l't system, Ft. Leavenworth, Kan. May 14
Jun. 6. Cast-iron pipe, Washington, D. C. ..... May 14
Advertised, Eng. News, May 14 to June 4.
Jun. 8. Storage reservoir, Bozemont, Mont. ..... May 14
Advertised, Eng,. News, May 14 and 21.
Jun. 8. Pumping engine, etc., Lancaster, Pa. ..... May 14
Advertised, Eng,. News, May 14 and 21.
Jun. 8. Barracks, Alaska (U. S. Poss.) ..... Apr. 23
Jun. 8. Defense towers, Portland, Ore. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 21-June 4.
Jun. 8. Building, Cleveland, O. ..... Apr. 30
Advertised. Eng. News, Apr. 30 and May 7.
Jun. 8. Sewers, Ridgefield Park ,N. J. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 8. Macadamizing, Steubenville, O. ..... May 21
Jun. 8. Roads, Albany, N. Y. ..... May 21
Advertised. Eng. News, May 21 to Jun. 4.
Jun. 8. Sewers, Millburn, N. J. ..... May 21
Advertised, Eng. News, May 21 to Jun. 11.
Jun. 8. Road (1¾ miles), Mt. Holly, N. J. ..... May 21
Advertised, Eng. News, May 21 to Jun. 11.
Jun. 8. Electric light plant, New Orleans, La. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 8. Storage reservoir, Bozeman, Mont. ..... May 21
Advertised, Engineering News, May 21.
Jun. 8. Pumping plant, etc., Schenectady, N. Y. ..... May 21
Advertised, Engineering News, May 21.
Jun. 9. Paving, Ashland, Wis. ..... May 21
Jun. 9. Water-works improvement, Ilion, N. Y. ..... May 21
Jun. 9. Alterations, St. Paul, Minn. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 9. Training wall, St. Augustine, Fla. ..... May 14
Advertised, Eng. News, May 14 to June 11.
Jun. 9. Paving, Steubenville, O. ..... May 14
Jun. 10. Bridge, Terre Haute, Ind. ..... May 14
Advertised, Eng,. News, May 14 and 21.
Jun 10. Macadamizing, Bowling Green, O. ..... May 14
Jun. 10. Pile dock, New York, N. Y. ..... May 14
Advertised, Eng. News, May 14 to Jun. 11.
Jun. 10. Water-works, Dillon, Mont. ..... May 21
Advertised, Eng. News, May 21 to Jun. 11.
Jun. 10. Bridges (2), Rushville, Ind. ..... May 21
Jun. 11. Bridge, South Bend, Ind. ..... May 21
Jun. 11. Barges (4), New Orleans, La. ..... May 21
Jun. 11. Building, Paducah, Ky. ..... May 14
Jun. 12. Removing wrecks (U.S. Poss.), Cuba ..... May 7
Jun. 12. Fireproofing, etc., Augusta, Ga. ..... May 21
Jun. 12. Grading and draining, Wauseon, O. ..... May 21
Jun. 12. Building, Frankfort, Pa. ..... May 21
Jun. 12. Sewer system, Lawrence, Kan. ..... May 21
Jun. 13. Railway materials, Siam ..... Feb. 5
Jun. 15. Breakwater, Manila, P. I. ..... Mar. 12
Advertised, Eng. News, Mar. 12 to May 14.
Jun. 15. Railway material (foreign), Siam ..... May 14
Jun. 15. Building, Beaumont, Tex. ..... May 21
Jun. 16. Building, Alexandria, Va. ..... May 21
Jun. 16. Building, Los Angeles, Cal. ..... May 21
Jun. 17. Pier construction, Grand Rapids, Mich. ..... May 21
Advertised, Eng. News, May 21 to Jun. 18.
Jun. 18. Building, Boone, Ia. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 18. Street lighting, Portland, Ore. ..... Apr. 23
Jun. 20. Sewers, Washington, D. C. ..... May 14
Advertised, Eng. News, May 14 to Jun. 11.
Jun. 21. Building, Salem, Ore. ..... May 21
Jun. 25. Building, Leadville, Colo. ..... May 21
Advertised, Eng. News, May 21 and 28.
Jun. 30. Dredges, Philadelphia, Pa. ..... May 14
Advertised, May 14, 21, and Jun. 11, 18.
Jun. 30. Railway (foreign), Spain. ..... May 14
Jun. 30. Fencing, Gettysburg, Pa. ..... Apr. 16
Jun. 30. River work, New Orleans, La. ..... May 7
Advertised, Eng. News, May 7, June 18, 25.
July 1. Electric lighting, etc., Rangoon, India ..... Feb. 5
July 1. Railway, Argentina (Foreign) ..... Apr. 23
July 13. Building, La Grange, Ga. ..... May 7
May 2, '04. Railway, South Australia ..... Feb. 5
No date. Street cars, Jacksonville, Fla. ..... May 14
Advertised, Eng,. News, May 14 and 21.
No date. Electric equipment, Caledonia, Minn. ..... May 21
Advertised, Eng. News, May 21 and 28.
" . Water tower, etc., Lancaster, Ky. ..... May 21
Advertised, Engineering News, May 21.

RAILWAYS.

(For foreign railways, see under "Mexico," and "Foreign Contracts and Export News.")

ARKANSAS SOUTHERN.—Civil Engineer Bohem will start horseback survey over line to Alexandria, La. He states that work will commence at Winnfield on the line to Alexandria within a month.

ATCHISON, TOPEKA & SANTA FE.—It is stated that improvements will be made on the road from La Junta north. The roadbed will be graveled and new bridges and culverts put in. One bridge at Colorado Springs alone will cost $25,000. J. Dun is Ch. Engr., Chicago, Ill.

BALTIMORE & OHIO.—The Cleveland Terminal Valley branch will engage in extensive improvements in the territory around Cleveland, O. The yards in and around that city will be considerably enlarged.

BOX CANYON & SANTA FE.—Organized in Arizona by Dr. O. E. Greer to build from Congress Junction to Bill Williams Fork, 40 miles.

CALIFORNIA MIDLAND.—Preliminary surveys are completed for about 50 miles of this proposed road. The line will run from the Minaret mines in Yosemite Park, Cal., to tidewater.

CHICAGO GREAT WESTERN.—Survey completed from Lehigh to Des Moines, Ia., for an extension of the Fort Dodge-Lehigh branch line to that city. F. R. Coates is Ch. Engr., St. Paul, Minn.

DENVER & RIO GRANDE.—Work ordered commenced on proposed Salina cut-off and on other projected improvements. Contracts let for Layton cut-off. Chief Engineer Yard, Salt Lake City, Utah, is in charge.

EAST & WEST R. R. OF GEORGIA.—Seaborn Reese, Sparta, Ga., writes that all but four miles has been graded. Right of way secured under former charter, excepting for the distance not graded. No difficulty anticipated in securing remainder. Line will run from Sparta to Sandersville, 30 miles. W. B. Bennett is Pres., Sandersville.

EL PASO & NORTHEASTERN.—R. S. Sumner, Ch. Engr., Alamorgorda, N. Mex., informs that approximately 25,000 cu. yds. of grading will be necessary for the sidings between El Paso and Santa Rosa. Contract not yet awarded. Chas. B. Eddy is Pres.

GRAND RAPIDS & INDIANA.—Line will be built for logging purposes from the main line at Boyne Falls, Mich., to a point 4½ miles northwest. Copps & Mitchell, Cadillac, will contribute $4,500 towards the road.

GREAT NORTHERN.—Porter Bros., Spokane, Wash., have contract for building 12-mile extension from Nashwauk, Wash., to the Diamond iron mine. New town will be built on the west bank of Snowball Lake.

ILLINOIS CENTRAL.—Garvey Bros. & McGhee, Memphis, Tenn., have received contract for grading three new freight and switching yards south of Memphis. About 600,000 cu. yds. will have to be removed.

IMBODEN & ODELL.—C. P. Peyton, Ch. Engr., Charleston, W. Va., informs us that as soon as location is completed contracts will be let for constructing this line, to run from Charleston to Belva, 45 miles, and from Charleston to Sutton, 96 miles. Preliminary survey for entire distance made; right of way secured for 26 miles; capital provided in part.

LOS ANGELES, DAGGETT & TONOPAH.—Nevada & California Construction Co. incorporated in California to build this road, some 230 miles long. Construction will begin within 30 days. Capital of construction company, $10,000,000. J. M. Graybill is Secy. and Treas; headquarters at Los Angeles.

MICHIGAN CENTRAL.—Right of way practically secured on 3½-mile connecting line with the Lake Shore at Grand Rapids, Mich. W. S. Kinnear is Ch. Engr., Detroit, Mich.

MIDDLESBOROUGH MINERAL.—Henry Fondi, Knoxville, Ten., writes that a line 45 miles long, running from Middleborough to Harlan, will be built by this company. J. H. Bartlett is Pres., Middlesborough. W. H. Wells, Ch. Engr., Washington, D. C., should be addressed for further information.

MINNEAPOLIS, SUPERIOR, ST. PAUL & WINNIPEG.—Financial arrangements for this project reported completed; company organized in 1897. Preliminary lines have been run and surveys will be completed. It is planned to have the road ready within 2½ years. Road to run from Minneapolis, Minn., to the head of the Lakes and to Beaudette; main line to be 320 miles long, and branch road about 180 miles. Capital stock, $12,500,000. Company will have independent docks and wharves on the Lakes. Headquarters in Minneapolis, Minn.

MISSISSIPPI-ALABAMA.—The organization of a company will soon be effected for building a road from the Tombigbee River, near Aberdeen, Miss., via Columbus, Ga., to Linden, Ala., connecting with the L. & N. The capitalization will be $2,000,000. Enos R. Stewart, Selma, Ala.; Robert B. Zell, Birmingham; Chase H. Whitely, Epes, Miss., and Thos. Cairnes, Demapolis, Miss., are interested.

NEW YORK CENTRAL.—The plans for the change of motive power on the company's Park Ave. tunnel line in New York city to electricity and for adding 10 stories to the present Grand Central Station, have been completed, and will be submitted to the board of estimate of New York and the work started as soon as approved. H. Fernstrom is Ch. Engr.

NORTH DAKOTA.—The Brazil Grain & Shipping Co. has taken out incorporation papers at Brazil, with $200,000 capital. Company will build a road from that point southwest, probably reaching Bismarck.

NORTH SHORE R. R.—A spur line will be built from the main line to the new town of Mesa Grande, Cal. John Gray, Sausalito, Cal., is Ch. Engr.

PEARL & LEAF RIVER.—W. A. Stevenson, Ch. Engr., Hattiesburg, Miss., informs us that the contract was let May 1 to Bowles & Hemmingway, of Jackson, Miss., for building the road from Prentiss to Silver Creek, via White Sand, 9½ miles. Surveys complete; right of way bought.

PENNSYLVANIA R. R.—Yard improvements at York, Pa., reported planned.——The Supreme Court has approved the company's plans for a railway tunnel across Manhattan Island. W. H. Brown is Ch. Engr., Philadelphia.

PENNSYLVANIA R. R.—Chief Engineer Brown has awarded to the Smith Construction Co. and D. F. Keenan, of Philadelphia, Pa., the contract for a change of line from Latrobe to Millwood, on the Pittsburg Division. The contract involves about 4,500,000 cu. yds. of excavation, 25,000 cu. yds. of bridge masonry and 260 ft. of tunnel.

PERE MARQUETTE.—The directors have decided to push the work of completion on the Canadian Division from St. Thomas, Ont., to Niagara Falls.

ST. LOUIS VALLEY.—This road purchased by the St. Louis, Iron Mountain & Southern R. R., runs from East St. Louis to Fordyce, Ill., 92 miles, and, it is reported, will be extended to a connection with the Wabash.

SAN FRANCISCO & EUREKA.—Being organized in San Francisco, Cal., with $10,000,000, to build an extension of the California & Western from Willits to Eureka.

SEABOARD AIR LINE.—Engineers are now surveying into Gadsden, Ala., for the proposed new line, having finished a route from Lock Three, on the Coosa River; new line is to be 20 miles long. W. W. Gwathmey, Jr., is Ch. Engr., Portsmouth, Va.

SOUTHERN PACIFIC.—Brooks Bros. Co., Buttfield, Tex., have 85,000 cu. yds. of good drag and wheeled scraper work to let on the Sour Lake extension. Free transportation over T. & N. O. R. R.——A spur line into the heart of the oil field near Ora Station, about 15 miles, is reported planned. W. Hood is Ch. Engr., San Francisco, Cal.

WABASH R. R.—Joseph Ramsey, Pres., is reported to have completed plans for an extension from Pittsburg, Pa., to Belington, W. Va. Right of way secured; line will be 110 miles long.

WARREN, CORSICANA & PACIFIC.—Track to be changed to standard gage; road runs from Warren to Campwood, some 20 miles; will also be extended from Campwood to Corsicana, about 150 miles. I. L. Campbell is Vice-Pres. and Gen. Mgr., Houston, Tex.

WESTERN MARYLAND.—J. Q. Barlow, Ch. Engr., Cumberland, Md., writes us that bids have already been called for and competition will close in June for constructing the extension to Cumberland, 60 miles. Surveys complete and right of way purchased.

NEW INCORPORATIONS AND CHARTERS.

ALABAMA, TENNESSEE IRON & R. R. CO.—N. J.—Incorporated with $2,500,000; to acquire mining rights and construct and operate railways. James R. Hunter, Bridgeport, and F. R. McDermott, Jersey City, N. J., are incorporators.

GARLAND WESTERN.—Ark.—To build an extension of the Little Rock, Hot Springs & Western R. R. to a point in Montgomery county, 51 miles, which will likely be continued to Mena, 80 miles. S. W. Fordyce is Pres.

EASTERN TENNESSEE.—Tenn.—Charter issued; line to be standard gage and to run from Elizabeth up the Doe River to Hampton, thence along Laurel Fork to the headwaters of Elk River; capital, $25,000. Wm. S. Whiting, James D. Jenkins and Lee F. Miller are incorporators.

FOURCHE RIVER & SOUTHERN.—Ark.—Charter granted for 12-mile line from Esau to Noah; capital, $40,000. G. Frey, C. W. Lewis and Charles Wurz are incorporators.

MARKED TREE & WESTERN.—Ark.—Chartered to build a road from Marked Tree to the west line of Poinsett county, 20 miles. O. K. Warren, Marked Tree, and Donald P. Mann, Jonesboro, are incorporators.

ROCK ISLAND, KEITHBURG & SOUTHERN.—Ill.—Incorporated to build a road from Rock Island to Keithburg, thence southwesterly to the east bank of the Mississippi River to Carthage Junction; cap., $25,000; Hal B. Allen and Chas. K. Lathe, Erie, Ill., and Howard M. Ogden, Chicago, are incorporators.

SAN FRANCISCO & NORTHWESTERN.—Cal.—Cap., $15,000,000; to build road between Eureka and San Francisco; S. R. Payson, R. D. Pillsbury and A. Moreton are incorporators.

STREET AND ELECTRIC RAILWAYS.

(For foreign street railways, see under "Mexico," and "Foreign Contracts and Export News.")

MILLWOOD, MASS.—G. F. Carleton writes that further work on the Georgetown, Haverhill & Danvers Electric Ry. is indefinitely delayed, owing to legal complications. A survey has been made.

SALEM, MASS.—Local papers state that the contract for building the Salem end of the street railway from Lynn will be given out in a short time.

BOSTON, MASS.—We are informed that surveys are in progress for the Pepperell & Ayer St. Ry., to be a branch of the Lowell & Fitchburg St. Ry., now under construction. Line will run from Nashua, N. H., to a point in Massachusetts, 14 miles distant. Farnum & Murray are Engrs., 53 State St.

PROVIDENCE, R. I.—Plans completed for the electric road of the Westerly & Hopkinton Ry. Co. and work will begin at once. Charter granted a year ago. The road will be a little over six miles long, and will be built by the Eastern Electric Construction Co. of Boston, J. M. Klingelsmith, Pres. Railway company will also put in electric lights along its line. E. S. Hopkins is Pres.

HARTFORD, CONN.—The Willimantic Traction Co. has secured a right of way for its line to Baltic.——The Stamford St. Ry. Co. will immediately begin the construction of an extension to Greenwich, which it will complete within six weeks. G. W. Pierce is Supt.——Preliminary work is being completed by the Rockville, Broad Brook & East Windsor Electric Ry., and the plans will now be taken up and work started soon. Frank Grant, Rockville; J. T. McKnight, Ellington, and H. C. Wells, East Windsor, are interested.

HARTFORD, CONN.—The Stafford Springs St. Ry. Co., chartered to build a line from Rockville to the Mass. state line, is securing additional rights from the legislature preparatory to beginning operations. Headquarters will be in this city.——Crystal Lake Ry. Co., incorporated with $150,000 capital, will build line from the Somers & Enfield Electric Ry. in Somers to Crystal Lake. Henry R. Kibbie, C. S. Fuller and Arthur Perkins.

WALLINGFORD, CONN.—R. T. Ives writes that surveys are completed and the line of the Wallingford Tramway Co. staked out. It will run from New Haven to Wallingford, 12 miles, and will be an electric. Officers not yet elected.

PENN YAN, N. Y.—Morris F. Sheppard, Acting Pres. Lake Keuka & East Side R. R. Co., writes that contracts will be let soon for building 13 miles of electric railway for the company. Line will later be extended 20 miles. Surveys are made, including maps and profiles, and most of the right of way is secured.

ALBANY, N. Y.—The Union Traction Co. will expend about $115,000 to install a storage battery system, and will have the work completed within four months. The storage battery houses will be located at Watervliet and at North Albany Sts. The batteries will be of the chloride

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

accumulator type manufactured by the Electric Storage Co.——Application is granted by the State R. R. Board to the Oneonta, Cooperstown & Richfield Springs R. R. to abandon a part of its line on account of bad grades and curves. The company will build on a private right of way as a substitute. E. G. Turner is Ch. Engr., Hartwick.

WASHINGTON, N. J.—The Easton & Washington Traction Co. has filed articles of incorporation with $1,250,000 to build a trolley line from Easton to Hackettstown, and from Belvidere to Clinton, some 40 miles total. R. M. Petty, Washington, is Pres., and Wm. O. Hay, Easton, Secy.

SHENANDOAH, PA.—J. S. Housewick, Secy., Shenandoah & Suburban Electric St. Ry. Co., informs us that a line to Rivingtown, about five miles from this place, will be built, but nothing has yet been done in the way of contracts. Dr. D. J. Langton is Pres.

SHARPSBURG, PA.—The Butler Pike & Pine Creek St. Ry. has applied to the county commissioners for authority to use the Butler plank road for a distance of eight miles.

WHEELING, W. VA.—The Morgantown, Fairmont & Cheat River Ry. Co. has been organized; capital, $750,000. It will build a line 35 miles long in Marion and Monongalia counties. Davis Elkins, J. H. McDermott and T. R. Dillie are incorporators.

ATLANTA, GA.—Charter granted the Piedmont Electric Ry. Co., to run a line from this city through Roswell, Alpharetta and Cumming; cap., $500,000. Construction is expected to go on without delay. E. S. Brazelton, Birmingham, Ala., and C. C. Kingsbery and John Burnett, Atlanta, are interested.

COLUMBIA, KY.—We are informed that a preliminary survey has been made and most of the right of way secured for the line of the Columbia Interurban Ry. Co., from Campbellsville to Columbia, 19 miles. Line will be an electric. W. K. Azbill, Columbia, is Pres.

LOUISVILLE, KY.—The Pascagoula Ry. & Power Co. has been organized here, with $400,000 capital; will build interurban line in Mississippi and control the utilities of Pascagoula, Scranton, East Side and Moss Point. Chas. T. Ballard is Pres. and Spratt Bridges, Secy.

CINCINNATI, O.—Peter Schwab, of Hamilton, Pres., states that the Richmond & Portland Electric Ry. will try to complete its road by November or December. The line will be 86½ miles long; capital, $2,000,000.

CHARDON, O.—The Eastern Ohio Traction Co. has decided to sell $500,000 of its bonds and expend the proceeds for extensions and improvements.

COLUMBUS, O.—Ft. Wayne & Southeastern Ry. Co., of Toledo, incorporated with $10,000 capital, to build Bryan to the state line at the intersection of the Fort Wayne and Hicksville Ridge road. John M. Ormond, Robt. M. Barton and H. H. Burgert are interested.——Youngstown & Salem R. R., capital, $300,000, and the Youngstown & Southern Ry., capital, $1,500,000, incorporated by R. L. Andrews, John H. Ruhlman and Josiah R. Long. First road will run from Leetonia to Salem and other from Youngstown to East Liverpool. Both are to be electrics.

DAYTON, O.—Dr. Samuel F. George, Pres. Ft. Wayne, Dayton & Cincinnati Electric Ry., is said to have financed the road and that construction will commence soon. New York people are expected to advance $12,000,000 toward the enterprise.——Dayton Southwestern Traction Co., incorporated with $600,000 capital; line will run from this city to Soldiers' Home, Farmersville, Germantown and other towns.

SPRINGFIELD, O.—Contract for constructing line of Springfield, Troy & Piqua Electric R. R. from Lawrenceville to this city let to the Smith-Grant Co., Chicago. Work will be finished in 100 days, it is reported. Clifton Wise is Mgr.

BLUFFTON, IND.—We are advised as follows: A. T. Russell, Ch. Engr. for the C., B. & C. R. R., is established in this city and will advertise for bids for grading company's roadway.

EVANSVILLE, IND.—Council has granted right of way to Evansville & Henderson Traction Co.; road will extend from Henderson to Uniontown; work to commence within a year.

INDIANAPOLIS, IND.—Chicago, Indiana & Michigan Traction Co. has incorporated with $500,000 capital. Road will run from Hammond to South Bend, Michigan City, Valparaiso and Chicago. Hugh McGowan, Pres. Indianapolis St. Ry. Co., Ed. I. McKee and Lynn B. Martindale are directors.

INDIANAPOLIS, IND.—The Indianapolis Southern Ry. Co. is ready to contract for the grading and bridge building for its line. There will be a large amount of trestling and a number of tunnels cut through rock, the longest 1,800 ft. D. M. Parry is Pres., and S. E. Rauch, Sec., Office Union Trust Bldg.

CHICAGO, ILL.—The construction of the branch of the South Side Elevated R. R. to the stock yards will begin in August and be completed in three months. It will cost about $4,950,000. M. Hopkins is Gen. Mgr.

EAST DUBUQUE, ILL.—James M. Hamilton, Ch. Engr. Illinois, Iowa & Wisconsin Electric Ry., informs us that the first seven miles of this road will be difficult to locate and that many intricate engineering problems will be met with in the construction. The road is backed by well-known business men of Dubuque, and the stock subscribed to freely. Capital, $750,000.

LA SALLE, ILL.—The contract for grading and constructing the Illinois Valley Traction Co.'s track through Ottawa has been awarded to Charley Bros., of La Salle.

IOWA CITY, IA.—The contract for grading the Smith Dows electric road between Iowa City and Cedar Rapids has been let to Murray Bros., of Cedar Rapids, and work has started.

CRESTON, IA.—The Collins Construction Co. is getting ready to continue the work that was commenced last fall on the Creston and Winterset interurban electric railway. The company is now letting contracts. Capt Barker is Pres. Creston Electric Ry., Light, Heat & Power Co.

TEKAMAH, NEB.—F. W. Bement, Gen. Mgr. Omaha, Decatur & Northern Ry., informs us that the line will pass through a thickly settled portion of Nebraska and that construction will be started by June 1. The company's headquarters are at Tekamah, but will be located at Omaha. P. B. Gordon is Pres., Decatur; A. M. Anderson, Secy. and Treas., Omaha, and L. F. Wakefield, Ch. Engr., Sioux City, Ia.

BEAUMONT, TEX.—Beaumont & Sour Lake Construction Co. incorporated to build Beaumont & Sour Lake electric road; capital, $50,000. G. W. Meeker, Houston; R. C. Duff, Beaumont, and H. E. Smith, Columbus, O., are interested.

BROOKFIELD, MO.—Walter Brownlee states that 80% of the right of way for the Missouri Central Electric Ry. from this town to St. Louis is assured, and as soon as it is entirely secured contracts will be let for construction. The road will cost about $20,000 per mile, and about $4,000,000 to complete the construction and equipment. It will be of heavy construction, 80-lb. rails being used. Two power houses will be put up, one at Brookfield and the other at Glasgow. It is probable that another will be built at New Florence. E. W. Price, Keytesville, is Vice-Pres., and W. B. Cauthorn, Columbia, Ch. Engr.

HOUSTON, TEX.—The Houston Electric Co. will extend its Montgomery Ave. line to the intersection of West and Odin Aves., about one mile.

DENVER, COLO.—The Denver Tramway Power Co. will bond its road for $1,500,000 for making extensions and improvements, including a new line to Golden.

LYONS, COLO.—W. S. Greenleaf, of Omaha, Neb., will survey a 90-mile electric road from Ward to Lyons, which will afford an outlet to the mines and mills of the Tripp Reduction Co. The road will be used chiefly for freight.

SPOKANE, WASH.—The contract for grading the Spokane-Coeur d'Alene Electric Ry. between this city and Coeur d'Alene, Idaho, about 35 miles, was to have been let on May 11. According to the estimate of J. C. White, Ch. Engr., the cost would approach $1,250,000. Rails will be supplied by the Colorado Fuel & Iron Co. F. A. Blackwell is Pres.

SEATTLE, WASH.—The Seattle Electric Co. contemplates making a number of improvements this year, among which will be included some new lines.

MARTINEZ, CAL.—Robt. N. Frick has applied for a franchise for an electric railway to the top of Mt. Diablo.

KELSEYVILLE, CAL.—The Tucson Mineral Springs Corporation has incorporated with $1,000,000 capital to build a health resort at the Tucson Mineral Springs and to operate a railway line from Red Bluff to its property. Frank J. Hellen and R. D. Inman are interested.

BAKERSFIELD, CAL.—J. J. Davis, Gen. Supt. United Electric, Gas & Power Co., states that work will soon begin on the construction of the electric road between Los Angeles and Santa Barbara.

LOS ANGELES, CAL.—The Los Angeles & Glendale Electric Ry. Co. has incorporated with $1,000,000 capital; its road will run from this city to Glendale, thence to Burbank and to Pasadena, with a branch to Griffith Park, having a total length of 25 miles. R. H. Howell, E. T. Stimson and Geo. F. Cope are directors.

SAN JOSE, CAL.—San Jose & Los Gatos Interurban Ry., incorporated with $2,000,000, will build 18 miles of electric road from San Jose to Los Gatos, and also to Congress Springs Hotel, passing through Saratoga. James W. Rea is Pres., F. S. Granger and Geo. W. Waldorf are also interested.

SAN FRANCISCO, CAL.—City Engineer Grunsky states that the cost of building a conduit system for the Geary St. railroad would be $100,000 a mile for double track roads, and from $30,000 to $50,000 for trolleys.

RIVERSIDE, CAL.—City trustees have granted franchise to H. E. Huntington for an electric road from this city to Coronna.

CARSON CITY, NEV.—Richard Kirman, who has a franchise for an electric road from this city through Carson Valley, is arranging for beginning construction on the line.

PROVO, UTAH.—County commissioners have granted a franchise to Reed Smoot, J. Knight and C. E. Loose for an electric road and telephone system.

LIGHT, HEAT AND POWER PLANTS

(For foreign light, heat and power plants, see under "Mexico," and "Foreign Contracts and Export News."

HARTFORD, CONN.—Legislature has passed resolutions authorizing New Milford Power Co. to erect a dam on the Housatonic. The resolution was amended so that the company cannot divert the water on the river.

NIAGARA FALLS, N. Y.—It is stated that the contract for constructing the new tail race tunnel for the Toronto & Niagara Power Co., which is developing the power on Canadian side of the river, has been let to Anthony C. Douglass of this city. The contract is said to involve $500,000 or more.

ELMER, N. J.—Howell & Co., Drexel Bldg., Philadelphia, Pa., have been granted an electric light franchise in this place.

KEYPORT, N. J.—We are informed that contracts have all been let and work started for steam power plant of Jersey Central Traction Co. at this place. Vandergrift Construction Co., 653 Drexel Bldg., Philadelphia, were Des. Engrs.

WELCH, W. VA.—(See Water-Works.)

EASTON, PA.—The Phillipsburg & Easton Steam Heat & Power Co., H. Mitchler, 15 South Bank St., is having plans made for a public steam heating plant in this city. A. J. Cooper, Engr., has charge of all equipment.

WASHINGTON, D. C.—The power plant for the League Island Navy Yard, bids for which are asked until May 26, as was stated in our issue of May 7, is to consist of two continuous current generators, one motor generating set, one switchboard and wiring, two vertical cross compound engines, one cross-compound two-stage steam-driven air compressor, two air pumps and jet condensers, one tank pump, one horizontal boiler feed pump, four wrought steel sectional boilers, one water-tube feed water heater, one hydraulic accumulator and pump, and one hand-power traveling crane.

EAST POINT, GA.—Electric plant proposed. R. F. Thompson is Mayor.

NEW ORLEANS, LA.—Bids are asked until June 8 for constructing electric light and power system for city. W. J. Hardee, Cy. Engr.; V. Tujague, Cy. Comptroller.

JACKSON, MISS.—Bids are asked by the building committee, Capitol Light & Power Co., until May 25, for furnishing three 150-HP. each boilers, a 2,000-KW. multiple 2,300-volt alternator, direct connected to 300-HP. engine, and a 150-KW. alternator, direct connected to 150-HP. engine; also steel smokestack, 25-HP. induction motor, wires and supplies, etc., for new electric light plant. Kirkpatrick & Johnson, Engrs. The above item was wrongly printed in our May 14 issue under Jackson, Mich.

CLEVELAND, O.—Bids are asked until May 25 for furnishing fuel, gas, electric light and telephone service for the use of the Public Health and Marine Hospital Service during the fiscal year.

PUT-IN-BAY, O.—Franchise for electric light and power plant has been granted R. K. Ramsey.

ANDERSON, IND.—We are informed that bids will probably be received June 1 for proposed steam-heating plant of Home Heating Co., to be erected at a cost of $20,000. E. R. Vincent, Indianapolis, Ind., is Des. Engr.

NOBLESVILLE, IND.—We are informed that bids will probably be received about July 4 for a 1,000-HP. electric plant to be located two miles above this place. The plant is to be operated by water and is to cost about $80,000. Six 280-HP. turbines will be required; also two 400-KW. alternators, two miles wire, and Portland cement. Beardsley Gravity Dam Co., R. C. Beardsley, Pres., Elkhart, Ind., Des. Engrs.

HANCOCK, MICH.—W. W. Mercer and H. T. Ingersoll, Laurium, Mich., have asked for a gas plant franchise.

SAYBROOK, ILL.—$6,000 electric plant talked of.

SPRINGFIELD, ILL.—It is stated that the local gas heat and electric light plants are to be absorbed by an Eastern syndicate, which proposes extensive improvements.

GRANTSBURG, WIS.—Canute Olson, Pres., writes us that bids will probably be received June 1 for village electric plant, to be erected at a cost of $8,000. Oscar Clausen, St. Paul, Minn., is Des. Engr.

MILWAUKEE, WIS.—The state senate has failed to pass the bill to apply the surplus earnings of the waste department for installing a municipal electric light plant.

KEOKUK, IA.—U. S. Engineers have been holding hearings here on the construction of a dam across the entire width of the Mississippi River at this point for the benefit of navigation. The proposed dam would cost about $3,000,000, and it is estimated that 65,000 HP. would be developed.

REINBACH, IA.—Town lighting plant proposed.

CALEDONIA, MINN.—Bids are asked at once for furnishing following equipment for electric light plant: 125-HP. engine, two 80-HP. boilers each, and two 40-KW. dynamos. Jerry Kenny, Village Recdr. (See advertising columns.)

FERTILE, MINN.—Reports state that the village council are calling for bids until June 1 for installing an electric light plant.

RENVILLE, MINN.—W. O. Connor writes us that W. L. Tenney, Macon City, Ia., has contract for installing gas plant. Plant is to be completed July 1 and is to cost about $8,500.

SOUTH STILLWATER, MINN.—Village will have electric light plant and water-works, to cost about $23,000.

WICHITA, KAN.—Reports state that W. R. Morrison, Supt., Wichita Railroad & Light Co., has been making plans for a new power house and street car barns.

BOZEMONT, MONT.—We are informed that bids will probably be received June 1 for an electric plant for the People's Electric Light & Power Co., to be located in Gallatin Valley. The plant is to be operated by water and is to have a capacity of 75 arc and 3,000 16 c. p. incandescents. The estimated cost is $75,000. G. L. Hogan is official in charge.

GREAT FALLS, MONT.—Twenty-five-year franchise for electric light plant and street railway system is to be granted to John D. Ryan.

LITTLE ROCK, ARK.—Company that has franchise for a heating plant have asked for right to build an electric light plant to be operated in connection with it.

MADISONVILLE, TEX.—A. A. Allen will install electric light plant here.

SAN ANTONIO, TEX.—$10,000 has been appropriated for enlarging electric light, power and steam heating plant at Southwestern Insane Asylum.

COLORADO SPRINGS, COLO.—H. L. Oliver and M. J. Nelson, Colorado Springs, Colo., have asked for 20-year franchise for building light and water plants.

AURORA, WASH.—It is stated that J. B. Hurst, owner of the local electric light system, proposes to appropriate 15,000 inches of water from the Molalla River to operate his electric plant.

COLVILLE, WASH.—The Northwestern Light & Power Co. of this place has secured a franchise in Northport, and will put in a special plant at Meyer's Falls, in addition to the one now planned for furnishing light and power.

PROSSER, WASH.—The Prosser Falls Power & Irrigation Co. has asked charter to establish electric plant in this place.

SPOKANE, WASH.—Washington Water Power Co. may extend electric line to Glendale at cost of $16,000.

SALEM, ORE.—Union Light & Power Co., A. B. Kurtz, Supt., has asked franchise for furnishing electric light plant.

BRIDGEVILLE, CAL.—C. Alvin Baird, Vice-Pres., Humboldt Light & Power Co., writes us that engineers are now designing the machinery for the proposed water power plant near Bridgeville.

GRIDLEY, CAL.—It is stated that W. P. Hammon, Oroville, Cal., is interested in a project for erecting a 5,000-HP. electric plant at Shoo Fly on Indian Creek.

PLACERVILLE, CAL.—The contract for constructing the ditch and flume for the power house of the American River Electric Co., M. Fleishhacker, Mgr., has been let to the San Francisco Construction Co.

PORTERVILLE, CAL.—It is stated that the Mt. Whitney Light & Power Co. is soon to begin the erection of a new substation in this city for the installation of four transformers.

REDDING, CAL.—The Northern California Power Co. is said to contemplate the erection of a gas plant here. E. V. D. Johnson is Mgr.

ST. HELENA, MONT.—Reports state that Dr. G. S. Conner, Dixon, Cal., intends to establish an electric light plant here.

SAN BERNARDINO, CAL.—Contract for work on Lytle Creek plant of Edison Electric Co. has been let to Arthur S. Bent for about $150,000.

FORT ROSECRANS, CAL.—Contract for constructing power house at this place has been let to Sloan & Gray, Los Angeles, Cal.

OAKLAND, CAL.—Bids are asked until May 25 for lighting streets and public buildings of this city. Frank R. Thompson, Cy. Clk.

SAN LEANDRO, CAL.—The Suburban Light & Power Co., Wm. Angus, Mgr., is said to be preparing to enlarge the gas plant here from its present capacity of 15,000 ft. of gas a day to 100,000 ft. every 24 hrs. Extensions are also contemplated.

STOCKTON, CAL.—The American River Electric Co. has asked franchise for erecting poles and wires along road of Calaveras County and Amador County.

PRESCOTT, ARIZ.—It is reported that an electric plant is to be put in at the Iron King Mines in Bradshaw Mountains. Ben Blanchard is Gen Mgr.

OROFINO, IDAHO.—F. M. Mitchell, Grangeville, Idaho, is said to consider establishment of electric light plant and shingle mill in this place.

FREDERICKSTON, N. B.—Bids are asked until June 1 for street lighting for a term of ten years. Bids are to be for 62 1,200-c. p. arc lights. Chas. W. Beckwith, Cy. Clk.

FENELON FALLS, ONT.—Electric power plant proposed.

BONDS.—Corona, Cal., votes June 9 on $60,000 bond issue for electric light plant. H. A. Wood is Cy. Clk.——Cleveland, O., will probably issue $200,000 of bonds for

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

establishing municipal light plant.——Waxahachie, Tex., has voted on issue of $8,000 of bonds for municipal electric light plant.

NEW COMPANIES.—The Visalia Light and Fuel Co., Visalia, Cal.; $10,000; C. J. Giddings, G. A. Bosford.——Collinsville Electric Light Co., $5,000; Collinsville, Conn.; J. B. Lougee, J. D. Andrews, E. A. Perkins.——Paris Electric Light & Power Co., Paris, Ark.; $6,000; August Bartsch, Wm. M. Kimberling, Ed Bartsch.——The Excelsior Light, Power, Heat & Water Co., Excelsior Springs, Mo.; $150,000; John E. Lundstrom, Henry J. Arnold, Arthur Peters.——Sour Lake Light & Power Co., Sour Lake, Tex.; $10,000; D. O. Lively, T. J. Donoghue, F. W. Freeman.——Hebron Light, Power & Heating Co., Hebron, Neb.; $12,000; C. M. Wetherald, C. L. Richards, A. G. Collins.

BRIDGES

(For foreign bridge work, see under "Mexico," and "Foreign Contracts and Export News.")

BATH, ME.—It is stated that the U. S. Engineer will recommend the removal of the Bull Rock bridge, as an obstruction to navigation, and the substitution of another structure.

CUMBERLAND MILLS, ME.—J. A. Warren writes us that no definite plans have been made for proposed bridge and it is very doubtful if it is built this year.

PITTSFIELD, MASS.—H. N. Fobes, Engr. Bd. Pub. Wks., writes us that the proposed East Housatonic St. bridge is not to be built this year and that the contract for the Dalton Ave. bridge was let to the New England Structural Co., Boston, Mass., and is now under construction. Other reports stated that $10,000 had been provided for the East Housatonic St. bridge and $15,000 for the one on Dalton Ave.

BOSTON, MASS.—The Metropolitan Park Commission, Wm. B. de las Casas, Chn., have secured government permission to build a bridge over Malden River, between Everett and Wellington, to connect with Revere Beach. The commission will also build a bridge over the B. & M. R. R. tracks at Wellington.

LOWELL, MASS.—Geo. Bowers, Cy. Engr., has been requested to submit estimates of cost of new 50-ft. steel or stone structure to replace Pawtucket bridge.

TAUNTON, MASS.—We are informed that matter of bridge over Taunton River at Weir Village is before city government. Luther Dean, Cy. Engr. Other reports state a $23,000 appropriation is asked for the work.

BLACKSTONE, MASS.—$10,000 has been appropriated to build bridge on Central St. in Millville. John F. Meaney is on the building committee.

WOONSOCKET, R. I.—We are informed that everything is ready for the committee to call for bids for proposed bridge work. Frank H. Mills, Cy. Engr.

ORANGE, CONN.—The town has taken concurrent action with New Haven in voting to build a fixed raised bridge, 15 ft. in the clear, over West River at Kimberly Ave.

CANAJOHARIE, N. Y.—Contract for bridge over Erie Canal here has been let to the Rochester Bridge & Construction Co., Rochester, N. Y., for $19,542.

NEW YORK, N. Y.—Bids are asked by the Commissioner of Bridges, Park Row Bldg., until May 28, for constructing steel underflooring for roadways of Williamsburg bridge; also for constructing creo-resinate wood block pavement for same bridge. Specifications are on file at office of Engineering News. Gustav Lindenthal, Comr.

SCHENECTADY, N. Y.—James O. Carr, Secy. Schenectady Ry. Co., writes us that contracts for a steel bridge on stone and concrete foundation over the Mohawk River near the aqueduct has been let to Arthur McMullen & Co., New York, for the masonry and to the American Bridge Co. for the steel bridge. The estimated cost of the work is $200,000.

CARPENTERSVILLE, N. J.—The Northampton Bridge Co. is to have plans made for a highway bridge over the Delaware River at this place. H. H. Haines, Eastern, Pa., is interested.

MAGNOLIA, N. J.—We are informed that the following bids were received May 12 by J. J. Albertson, County Engr., for building two duplicate steel bridges on Pleasantville Highway, as was advertised in Engineering News: Frink & Co., Baltimore, Md., $26,552; N. J. Bridge Co., Jersey City, N. J., $27,700; Groton Bridge Co., Groton, N. Y., $27,900; O. H. Guttridge, Atlantic City, N. J., $27,450; C. H. Scheers, $25,549; B. F. Sureton & Sons, Camden, N. J., $27,915.

SOMERVILLE, N. J.—J. Doughty, County Engr., writes us that bids will be received June 2 for building a bridge on stone or concrete foundation at Gerard Ave., Plainfield. The bridge is to be of one span, 45 ft. wide, and is to cost $7,000. Bids will be received for brick arch or concrete and Buckle plates, also for concrete bridge complete. The Union and Somerset county engineers are the designers of the structure, which is to be erected jointly by the above named counties.

BELLEVUE, PA.—It is proposed to connect Avalon and this borough by a bridge to cost $20,000, and efforts are being made to have the county pay half the cost.

PHILADELPHIA, PA.—Press reports state that about a dozen contractors have been invited to submit bids for building the proposed two stone piers for the $1,000,000 double-deck bridge to be built over the Schuylkill River for the Philadelphia Rapid Transit Co.

BALTIMORE, MD.—Surveys have been made for the proposed new steel bridge to be erected over the Big Monocacy River, west of Dickerson, for the B. & O. R. R. The old piers now standing will be remodeled and three new ones erected. They will be 75 ft. high, 30 ft. wide and 10 ft. thick. The bridge will be about 800 ft. long.

HAGERSTOWN, MD.—The contract for an iron bridge over Beaver Creek has been let to Nelson & Buchanan, Chambersburg, Pa., for $1,600.

RICHMOND, VA.—Contract for a bridge in Green township has been let to the New Castle Bridge Co. for $3,595.

WHEELING, W. VA.—The condition of the Market St. bridge is to be investigated and this may mean the construction of a new bridge at that place.

QUINCY, FLA.—Bids are asked until June 2 for constructing bridge over Attapulgus Creek on Bainbridge road. Thos. Mitchell, County Clk.

MISSISSIPPI CITY, MISS.—Contract for building bridge over Bayou Felice, on Pass and Red Creek road, will be sold at public outcry June 1. F. S. Hewes, County Clk.

ALEXANDRIA, LA.—Bids are asked until May 30 for building bridge over Bayou Saline. P. H. Davidson.

CARTHAGE, TENN.—Council is to float a $50,000 bond issue for a bridge over the Cumberland River, the cost of which is estimated at $60,000. It is expected that remainder of the sum will be furnished by the Tennessee Central R. R.

CHATTANOOGA, TENN.—County court has appropriated $1,600 for rebuilding bridge in 11th District near Pattersons.

EAST LIVERPOOL, O.—A hearing was given here May 12 on plans of Newell Bridge Co., Jas. A. Newell, Pres., for proposed bridge over Ohio River at this place.

COVINGTON, IND.—Bids are asked until June 5 for constructing five iron bridges as follows: Wabash township, two spans, 100 ft. each; Shawnee township, 65 ft. long; Wabash township, 50 ft. long; also three other bridges, 14, 20 and 25 ft. long. Geo. A. Low, County Comr.

INDIANAPOLIS, IND.—Henry W. Klansman, County Surv., writes us that the proposed stone arch bridge over Fall Creek at College Ave., bids for which are asked May 22, is to have one 71-ft. and two 63-ft. spans and is to be 60 ft. wide. The estimated cost is $80,000. We are also informed that the county will build about 30 small bridges. Most of them will be concrete arches.

MADISON, IND.—Contracts for four iron bridges have been let to the Indiana Bridge Co. Contracts for abutment work of above bridges is to be readvertised.

NEW HARMONY, IND.—Contracts have been let to the Lafayette Engineering Co., at $1,295, for the Armstrong bridge in Bethel township and to the Vincennes Bridge Co., at $1,095, for the Releka bridge in Center.

SOUTH BEND, IND.—Bids are asked until June 11 for building a three-span concrete bridge of Milan arch type, about 375 ft. long, over St. Joseph River in Mishawaka. Bids will also be received on five-span plate girder bridge for same location. John M. Brown, County Audr.

RUSHVILLE, IND.—Bids are asked until June 10 for the following bridge work: Steel bridge superstructure and stone abutments for bridge over Lick Creek, Anderson township; steel superstructure and stone abutments for bridge over Blue River, near Knightstown, Ind. Marquis L. Sisson, County Comr.

VERNON, IND.—Bids are asked until June 1 for constructing two steel bridges over Six Mile Creek in Spencer township. Harvey R. Weeks, County Comr.

SULLIVAN, IND.—We are informed that the following total bids were received May 8 for constructing 11 steel or concrete bridges: J. M. Lang, County Audro.: Champion Bridge Co., $12,625; Bellefontaine Bridge Co., $10,867; Vincennes Bridge Co., $11,154; Indianapolis Bridge & Iron Works, $11,975; W. A. Braden, $12,005; Indiana Bridge Co., $13,000.

ESCANABA, MICH.—Plans and estimates are stated to have been made for a county bridge to cost about $6,000 to span the Escana River at Wells.

GRAND RAPIDS, MICH.—County bridge committee, Peter C. Campbell, Chn., are instructed to call for bids at once for plans and material for a bridge at North Park the cost of which is not to exceed $30,000.

GRAND RAPIDS, MICH.—The time for receiving bids for a concrete or concrete-steel arch bridge over Grand River at Bridge St., has been postponed from May 15 to June 5. L. W. Anderson, Cy. Engr.; Jos. Emmer, Pres. Bd. Pub. Wks. (See advertising columns.)

CHICAGO, ILL.—A court decree has been signed providing that the Illinois Central R. R. Co. shall construct a viaduct at Monroe St. similar to the one at Van Buren St.

L'ERABLE, ILL.—This place will vote June 1 on a $2,500 bond issue toward a bridge over the Iroquois River, the total cost of which will be $10,000.

ST. PAUL, MINN.—Contract for constructing abutments for Grand Ave. bridge has been let to Newman & Hoy for $11,164.

SEDAN, KAN.—Bids are asked by the county commissioners until May 29 for erecting stone abutments and retaining walls for two steel bridges. J. J. Crouse, Chn. Comrs.

SEDAN, KAN.—Bids are asked by the township board until June 1 for building retaining walls of Wolf Creek bridge. Dan Stough.

WICHITA, KAN.—The county commissioners have appropriated $12,380 for building two steel bridges, one of which, the Derby bridge is to cost $6,380, and the other to be built over the Little River is to cost $6,000. The commissioners also considered the building of five other bridges at a cost of $4,500.

FULLERTON, NEB.—Nance County has voted to issue $75,000 of bonds for erecting steel bridges over Loup River at Genoa, Palmer and Fullerton.

FORT BENTON, MONT.—Bids are asked until June 4 for constructing Home truss or combination bridge over Milk River, Bear Chinook. Bridge is to be of one span, 300 ft. long and 18 ft. in clears, and is to be set on piling, steel tubular piers or cribbage. E. Frank Sayre, County Clk.

LEWISTON, MONT.—Contract for building four steel bridges has been let to M. A. Adams, Minneapolis, Minn., for $9,199.

HAMILTON, MO.—The contract for erecting 22 bridges has been let to the Canton Bridge Co., Canton, O., for $8,900.

HOUSTON, TEX.—Reports state that bids are to be called soon for a bridge over Buffalo Bayou to connect Rusk Ave. and Laura St. It is also stated that the bridge over White Oak Bayou, near the Katz Depot, will be replaced at a cost of $29,000.

POND CREEK, OKLA.—Contract for a bridge over Bluff Creek on the state line has been let to Wichita Bridge Co., Wichita, Kan., for $2,400.

PUEBLO, COLO.—The state is to erect a $7,500 bridge over the Arkansas River, near the mouth of the St. Charles.——It is stated that the work of improving the line of the Santa Fe Railway from La Junta north includes the building of several bridges, one of which, near Colorado Springs, is to cost $25,000.

ASTORIA, ORE.—We are informed that the following bids were received May 5 for constructing draw bridge over Lewis and Clark River: J. C. Clinton, County Clk.; Houston & Ferguson, Astoria, Ore., $17,500 (contract awarded); Fastabrud & Palmberg, Astoria, Ore., $49,048; J. B. Tillotson, Portland, Ore., (a) $20,184, (b) $19,400, (c) $18,844.

CHEHALIS, WASH.—Bids are asked until June 1 for constructing a 140-ft. bridge over Chehalis River. Bids to be for combination bridge or for all wood bridge. A. Schorly, County Auditor.

HAY, ONT.—Bids are asked until June 1 for constructing abutments and steel superstructure of Sauble bridge which is to have 70-ft. span and 14-ft. roadway. F. W. Farnscomb, London, Ont., Engr.; Fred Hess, Sr., Township Clk.

HOQUINAM, WASH.—The contract for building a bridge over the Humptulifs River at Humptulifs City has been let to the Puget Sound Bridge & Dredging Co. for $6,800.

OROVILLE, CAL.—Bids are asked until June 6 for building steel bridge over west branch of Feather River. H. T. Batchelder, County Clk.

FLETCHER, ONT.—Bids are asked until May 29 for constructing steel pile trestle, seven-span bridge 181 ft. long, over Jeannett Creek. Alex Farquharson, Clk., Tilbury East Township.

BUILDINGS.

(For foreign building operations, see under "Mexico," and "Foreign Contracts and Export News.")

AUGUSTA, ME.—Bids are asked until June 12 for fireproofing and refinishing third and fourth floors of south wing of state capitol building. Col. E. C. Stevens, Supt. Pub. Bldgs.

JACKSON, N. H.—C. W. Gray writes us that the hotel to replace Gray's Inn will be 45 × 100 ft., three stories, and cost $75,000; also wing, 40 × 70 ft.

TAUNTON, MASS.—$60,000 has been recommended for erecting police station.

OAKLAND BEACH, R. I.—The Oakland Beach Hotel has been destroyed by fire, with loss of $75,000. D. R. Brown is principal stockholder.

ALBANY, N. Y.—The sum of $870,000 may be appropriated for erecting the State Insane Hospital buildings.

ALBION, N. Y.—New high school building being discussed. Cost, $50,000.

NEW YORK, N. Y.—Bids are asked by department of education, Park Ave. and 59th St., until May 25, for sanitary work, repairs, alterations, electric wiring, etc., to various school buildings. C. B. J. Snyder, Supt. School Buildings.——A 12-story fireproof office building, 50 × 100 ft., will be erected for the Century Realty Co. at 34th St., at cost of $175,000.——W. F. Havemeyer and F. W. Savin will erect a 17-story office building, 25 × 50 ft. at Exchange Pl. and New St. A. W. Bruner, Arch., 33 Union Sq.——It is planned to build an auditorium, 80 × 128 ft., at each end of the new East River bridge. The anchorages will be pierced by arches, and over these will be constructed the auditoriums. Access will be had to them by means of stairways and elevators.——Work will soon start on John Wanamaker's new 16-story stone and terra cotta fireproof store, 188 × 339 ft., at Fourth Ave. and Ninth St. Cost, $4,000,000. Wm. C. Lewis, Supervis. Arch. for D. H. Burnham & Co., Chicago.

NEW YORK, N. Y.—Plans have been filed by Israels & Harder, Archs., 31 West 31st St., for 6-story brick and stone flat, 87 × 87 ft., at 112th St., for M. Tully, 211 West 107th St., at cost of $150,000; by R. Werner, Arch., 4019 Third Ave., for 5-story brick factory, 100 × 80 ft., at Ittner Place, for P. Hoelring, 1572 Washington Ave., at cost of $60,000; by Clinton & Russell, Archs., 32 Nassau St., for 12-story brick office building, 50 × 106 ft., at 34th St. and Fifth Ave., for Century Realty Co., 137 Broadway, at cost of $175,000; by Neville & Bagge, Archs., 217 West 125th St., for 12-story brick hotel, 65 × 85 ft., at 46th St., for Allison Realty Co., 320 Broadway, at cost of $350,000; by G. F. Pelham, Arch., 503 Fifth Ave., for 6-story brick flat, 44 × 61 ft., at 219-21 Mulberry St., for I. Polstein, 120 Bible House, at cost of $45,000; by P. Roberts, Arch., 33 Sullivan St., for 1-story brick warhouse, 74 × 78 × 83 × 100 ft., at 410-16 Canal St., 62-6 Varick St. and 18 Leight St., for B. B. Johnson, 115 Broadway, at cost of $48,000; by W. K. Benedict, Arch., 11 East 42d St., for 9-story brick warehouse, 49 × 74 ft., at 35-7 Ferry St., for F. Vogel, Jr., at cost of $70,000; by J. B. McElfatrick, Arch., for theatre, 100 × 185 ft., at Fulton St., Brooklyn, at cost of $175,000.

NEW YORK, N. Y.—Bids are asked by fire department, 157-9 East 67th St., until May 25 for erecting building for Hook and Ladder Co. No. 26, at 114th St. Thos. Sturgis, Comr.——Bids are asked by Park Dept. Fifth Ave. and 64th St., until May 28 for plumbing and interior finish of two bath-rooms in pavilion to be erected in William H. Seward Park; also paving walks with asphalt in Hamilton Fish Park. Wm. R. Wilcox, Comr.

YONKERS, N. Y.—The Yonkers Ry. Co. will erect a 3-story brick and steel fireproof depot, 150 × 200 ft., at Main St. and Buena Vista Ave., to cost about $200,000. E. A. Maher is Pres.

PATERSON, N. J.—The new police station will be three stories and contain 20 cells. A patrol stable will be built in the rear. Cost, $45,000.

PLAINFIELD, N. J.—F. T. Woodhull, Secy. Bd. Education, writes us that site has been purchased for High School building.

PRINCETON, N. J.—Bids are asked by Princeton University for 2½-story stone and brick fireproof dormitory, 40 × 300 ft. Cost, $125,000. B. W. Morris, Arch., New York.

CONNELLSVILLE, PA.—Reports state that bids will soon be asked for erecting court house.

FRANKFORD, PA.—Bids are asked until June 12 for constructing a 2½-story brick and steel building, 54 × 143 ft., for the Frankford Arsenal. F. Heath, Maj. Ord. Dept.

HARRISBURG, PA.—The Methodist Asso. contemplates erecting a 5-story brick, stone and steel office building. Address, S. C. Snallow, 20 North Second St.

PHILADELPHIA, PA.—The post office building at Pacific and Pennsylvania Aves. will be two stories, stone and brick, 110 × 150 ft., and cost $100,000.——The Charles McCaul Co. received contract for erecting the 4-story granite, brick and Indiana limestone fireproof building, 45 × 103 ft., for the Bell Telephone Co., at Fourth and Manning Sts. Power plant to be installed. Cost, $125,000.——J. E. & A. L. Pennock received contract for erecting 3-story addition, 30 × 72 ft. to the Corn Exchange National Bank, at Second and Chestnut Sts. Cost, $50,000. Newman & Harris, Archs., Real Estate Trust Bldg.——C. F. Sharp will erect a 4-story brick lodging house, 18 × 91 ft., at 819 Locust St., for D. J. Shem. Cost, $90,000.——Bids are being received for erecting the Merchants' Warehouse Co.'s 7-story brick warehouse, 60 × 140 ft., at Delaware Ave. and Chestnut St. Cost, $150,000. Hewitt Bros., Archs., Burlitt Bldg.——W. J. Gilmore, Betz Bldg., will have plans prepared for a 2-story fireproof theatre at 15th and Ranstead Sts. Cost, $200,000.

POTTSVILLE, PA.—County court house, recently completed, will be enlarged. Cost, $50,000. Elevator will be installed.

PITTSBURG, PA.—A 12-story brick addition will be built to the Victoria Hotel, Penn Ave. and Sixth St. Cost, $150,000.——A. Lang will erect a $70,000 flat building in Brushton Ave.

SWISSVALE, PA.—C. E. Dickson will erect a 5-story brick and stone store and apartment house, 61 × 80 ft., at Edgewood and Braddock Aves. Electric light plant will be installed. Cost, $50,000. C. W. Milligan, Arch., Wilkinsburg.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

SCRANTON, PA.—Bids are asked by James Knox Taylor, Supervis. Arch., Washington, D. C., until June 4, for constructing post office, including plumbing and heating apparatus.

ANNAPOLIS, MD.—The Noel Const. Co., Eutaw and McCulloh Sts., Baltimore, received contract for erecting the 3-story granite and steel fireproof Abrose Bldg., 68 × 160 ft. Cost, $144,900.

BALTIMORE, MD.—T. B. Ghequier, Arch., 227 St. Paul, has plans for 6-story apartment house, 35 × 100 ft. Cost, $50,000.——Norcross Bros. Co., Worcester, Mass., received contract for erecting the Provident Savings Bank's 1-story stone and steel fireproof building, 62 × 94 ft. Cost, $150,000.——Plans will soon be started for the Maryland Casualty Co.'s 12-story brick, stone and steel fireproof office building at Baltimore and North Sts. Address John T. Stone, Equitable Building.

INDIAN HEAD, MD.—Bids are asked until May 26 for constructing two brick houses. A. S. Kenny, P. M. Gen., Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.

WASHINGTON, D. C.—The Catholic Missionary Union will erect a 4-story brick building, Bunker Hill Road, Catholic University; cost, $50,000.——P. Fersinger, 1 N St., received contract for erecting 7-story brick, stone and steel fireproof apartment house, 84 × 100 ft., at 11th St. Cost, $100,000.——The Chesapeake & Potomac Telephone Co., 619 14th St., will erect exchange on B St. C. L. W. Eidlitz, Arch., 1123 Broadway, New York.——The Royal Arcanum contemplates erecting a brick, stone and steel fireproof temple. Cost, $175,000.

ALEXANDRIA, VA.—Bids are asked by James Knox Taylor, Supervis. Arch., Washington, D. C., until June 16, for extending post office, including plumbing, heating apparatus, electric conduits and wiring.

NORFOLK, VA.—E. Tatterson received contract for erecting 1-story brick and stone Carnegie library, 45 × 90 ft., at $50,000.

RICHMOND, VA.—J. E. & A. L. Pennock, Philadelphia, Pa., received contract for erecting the 8-story American Nat. Bank building, at 10th and Main Sts. Cost, $160,000. Wyatt & Nolting, Archs., Baltimore, Md.

SISTERVILLE, W. VA.—A 4-story business block may be erected on site of Hotel Mercer. Cost, $100,000.

WHEELING, W. VA.—The post office building will be erected at Chapline and 12th Sts.

CLINTON, S. C.—A new Methodist church will be built.

CHARLESTOWN, S. C.—Bids are asked until June 6 for constructing 2-story brick and steel building for equipment at the navy yard. Mordecai T. Endicott, Ch. Bureau Yards and Docks, Washington, D. C.

DARLINGTON, S. C.—Plans are being considered for new court house.

NEWBERRY, S. C.—Bids are asked by building committee of Newberry College until June 1 for erecting main building. F. P. Milburn, Arch., Columbia.

ABBEVILLE, GA.—Contract for erecting court house let at $49,000.

MACON, GA.—Plans have been prepared for an auditorium. Mayor Smith is interested.

SAVANNAH, GA.—New city hall will cost $150,000. Architects competing in preparing plans.

BESSEMER, ALA.—The Birmingham Ry., Light & Power Co. will erect depot at First Ave. and 19th St.

BIRMINGHAM, ALA.—An addition to court house has been petitioned.

MOBILE, ALA.—The G. A. Robinson Con. Co. received contract for erecting S. Lowenstein's 3-story stone banking building, 55 × 135 ft., at $50,000.

NEW IBERIA, LA.—A $60,000 school building will probably be erected.

CHATTANOOGA, TENN.—The Carnegie Library, 54 × 97 ft., will be of brick and terra cotta, erected at Eighth St. and Georgia Ave. and cost $45,000.

HILL CITY, TENN.—A lodge building may be erected by the various secret organizations.

MEMPHIS, TENN.—Plans being prepared for labor temple. Cost, $125,000.

NASHVILLE, TENN.—Miles & Brandt, Atlanta, Ga., submitted the lowest bid for extension to custom house.

LEXINGTON, KY.—The Security Trust & Safety Vault Co. will erect a 5-story stone, brick and metal fireproof business building at Short and Mill Sts. at cost of $100,000. Light and heat plants and double elevators will be installed.

LOUISVILLE, KY.—The following bids have been received for constructing 264 cells in the new jail: Van Dorn Iron Works, Cleveland, O., $99,025, for 104 toolproof chrome cells and 160 of Bessemer steel construction; Pauli Iron Co., Indiana, $94,075, key bar construction, $3,000; Stewart Iron Co., Covington and Cincinnati, $92,790; and the Champion Iron Co., Canton, O., $98,237. Bids rejected as being about $20,000 in excess.——The Chicago, Indianapolis & Louisville Ry. Co. will erect a $50,000 depot. W. H. Newman, Gen. Agent, has charge.

CLEVELAND, O.—An addition will be constructed on South high school building. Cost, $75,000 to $100,000.——The Pennsylvania Ry. Co. will erect a roundhouse at the Kinsman St. crossing. Cost, $100,000.

CINCINNATI, O.—The American Book Co.'s building to be erected on site of the Anderson home, Third St., will cost about $300,000.——A new union passenger station will be located at south side of Third St. and cost between $6,000,000 and $10,000,000. W. S. Rowe, Pres. First Nat. Bank, is interested.

DAYTON, O.—G. A. and F. C. Dickson, Indianapolis, Ind., will erect brick and stone theatre of 2,200 seating capacity.

YOUNGSTOWN, O.—Bids are asked by board city commissioners until May 23 for constructing fire station at Madison Ave. and Elm St. E. R. Thompson, Arch.; C. E. Cross, Clk.

AMBOY, IND.—The Amboy Improvement Co., capitalized at $50,000, will build business block and department store. J. A. Baldwin is Pres.

INDIANAPOLIS, IND.—H. J. McGowan writes us that contracts will probably be let in June for the Indianapolis Terminal Co.'s station.——L. D. Ayers & Co. is having plans prepared for a business block and store at Washington and Meridian Sts.

MUNCIE, IND.—F. C. Ball, Chn. Building Com. of Indiana Comn. for St. Louis World's Fair, is receiving plans for Indiana building.

RICHMOND, IND.—D. G. Reid, New York, will erect $70,000 church. Plans prepared. Address Trustees United Presbyterian Church.

GREENCASTLE, IND.—J. W. Gaddis, Arch., Vincennes, writes us that the court house will be 100 × 115 ft. and cost $150,000. Plans completed about June 1.

SULPHUR SPRINGS, IND.—Bids are being received for brick and stone new building for the Red Men. Address Secy.

TAYLORSVILLE, IND.—W. L. Downie is receiving bids for erecting school building. E. E. Dunlap, Arch., Columbus, O.

GRAND RAPIDS, MICH.—A new school building may be erected at Barclay and Lyon Sts. Cost, $60,000.

JACKSON, MICH.—The bill to appropriate $173,000 for new cell block in prison has been favorably reported to the house by the ways and means committee.

PONTIAC, MICH.—Court house site being discussed.

CHICAGO, ILL.—S. T. Gunderson & Sons will erect a row of 2-story flats, 22 × 50 ft., at West Harrison St. and 42d Ave., at cost of $50,000; also a structure 50 × 118 ft. at Congress St. and 43d Ave. Cost, $25,000.——Aldis, Aldis, Northcote & Co., representing Shepard Brooks, Boston, Mass., will erect a 5-story store building, 100 × 100 ft., mill construction, at Clark and Van Buren Sts.——S. L. M. Marks will erect a 3-story residence, 29 × 83 ft. at 4724-26 Grand Boulevard at cost of $65,000. H. L. Newhouse, Arch.——Kehm, Fietsch & Miller will erect a 6-story pressed brick and stone addition, 48 × 100 ft., to their printing house at 61-3 Erie St., at cost of $45,000.——The Chicago Edison Co. will erect an 8-story building, 55 × 85 ft., at 82-4 Market St., at cost of $220,000.

CHICAGO, ILL.—Bids are asked by business manager Bd. Education, 730 Tribune Bldg., until May 29 for addition to Langland School. W. B. Mundie, Arch. of Bd.

LANCASTER, WIS.—Robt. Brooker received the contract for completing the court house, at $89,450.

LA CROSSE, WIS.—A syndicate will erect a 5-story stone building, to replace the Park store building which was destroyed by fire. Cost, $100,000.

MILWAUKEE, WIS.—Mrs. J. Trock will erect 12 brick flats on Greenfield Ave. at cost of $60,000.

PLATTEVILLE, WIS.—A $75,000 normal school may be built. Senator Burns is interested.

SUPERIOR, WIS.—Competitive plans will soon be asked for the new federal building. Cost $300,000. Postmaster Thomas is interested.

AMES, IA.—H. W. Schlueter, Chicago, Ill., submitted the lowest bid for the new Iowa College building, at $325,000.

BOONE, IA.—Bids are asked by James Knox Taylor, Supervis. Arch., Washington, D. C., until June 18, for constructing post office, including plumbing, heating apparatus, electric wiring and conduits. (See advertising columns.)

CEDAR FALLS, IA.—G. H. Ulsworth, Supt. Construction, writes us that plans are being prepared for the gymnasium and assembly hall at the State University of Iowa. Contract will not be let until next year. Cost, $125,000. Proudfoot & Bird, Archs., Des Moines.

SIGOURNEY, IA.—New court house being discussed.

MOUNTAIN LAKE, MINN.—Bids are asked until June 5 for the erection of a high school building, except heating and ventilation. H. C. Gerlach, Arch., Mankato. A. Janzen, Secy.

MINNEAPOLIS, MINN.—The Minneapolis Brewing Co. will erect a European hotel and metropolitan cafe, on First Ave.——Work will soon start on the Twin City Rapid Co.'s 80 × 140-ft. brick and terra cotta office and power building. Cost, $100,000.

ST. PAUL, MINN.—Frye & Jenkins will probably erect a brick apartment house at Sixth and Summit Aves., at cost of $50,000.

IOLA, KAN.—The new court house will cost about $46,000. J. H. Holland, Arch., Topeka.

ABERDEEN, S. D.—W. L. Dow & Son, Archs., Sioux Falls, writes us that bids are asked until May 27 for erecting the brick normal school, 41 × 134 ft. Contract for heating, plumbing and electric wiring will be let later. Cost, $30,000.

BERESFORD, S. D.—Bids are asked until May 30 for erecting brick Catholic church. Rev. Jas. McNally, Pastor.

DEADWOOD, S. D.—A $75,000 court house being discussed.

ST. LOUIS, MO.—Paul Brown will erect a 5-story brick and terra cotta building, 114 × 135 ft., at Broadway and Clark Ave., at cost of $200,000. Steam heat, electric elevators and dumbwaiters will be installed.

ROCKPORT, MO.—Architect Eckels, St. Joseph, has submitted plans for the new jail and residence for the sheriff.

DALLAS, TEX.—The A. G. Elliott Paper Co. will erect a 4-story pressed-brick building, 60 × 200 ft., on Pacific Ave., at cost of $60,000. J. A. Toole is Mgr.

GALVESTON, TEX.—Clarke & Courts will erect fireproof addition to their building.

PALESTINE, TEX.—Plans have been completed for F. Stork's new opera house at North Sycamore and Crawford Sts.

LIVINGSTON, TEX.—Bids are asked until May 25 for erecting 2-story brick building for the Citizens' Natl. Bank. S. M. Peters, Cashier.

BEAUMONT, TEX.—G. Allen, Arch., Waco, writes us that bids are asked until June 15 for erecting 3-story brick and terra cotta school building, 110 × 200 ft. Cost, $65,000. Mechanical system of steam heating and ventilation installed.

LEADVILLE, COLO.—Bids are asked by James Knox Taylor, Supervis. Arch., Washington, D. C., until June 25, for constructing post office, not including heating apparatus, electric wiring and conduits. (See advertising columns.)

OKLAHOMA CITY, OKLA.—T. J. Prosser, St. Louis, will erect two depots for the M. K. & T. Cost, $50,000; also roundhouse, at $25,000.

ALBUQUERQUE, N. M.—$200,000 appropriated for federal building.

SEATTLE, WASH.—Prof. Weave will open plans June 1 for new Carnegie Library building.

SPOKANE, WASH.—M. Lang will erect 3-story pressed-brick building at First and Sprague Aves. Cost, $50,000.——The Cinrograph Theatre Co. will erect theatre building on Riverside Ave.

PORTLAND, ORE.—The Elks Lodge will erect a 6-story building, 100 × 100 ft., at Seventh and Stark Sts., at cost of $100,000. G. H. Chamberlain is interested.

SALEM, ORE.—Bids are asked by board trustees until June 21 for constructing additions to two buildings of the State Reform School. D. C. Lewis, Arch., Chambers Bldg., Portland. W. N. Gatens, Secy.

COALINGA, CAL.—Messrs. May, Adams, McIntyre and Atchison have organized for the purpose of erecting a new hotel here.

BAKERSFIELD, CAL.—Plans are being prepared for new First Methodist Church, to be erected here.

DUNSMUIR, CAL.—The site of the Mount Shasta Hotel will be occupied by a brick building. J. B. Dougherty is Supt.

FRESNO, CAL.—B. G. McDoughall, Arch., has drawn plans for Chamber of Commerce building.

LOS ANGELES, CAL.—Bids are asked by board supervisors until June 16 for erecting the brick and stone county hospital buildings. Wm. Moser, Arch. C. G. Rogers, County Clk.

LOS ANGELES, CAL.—The Alta Vista Hotel has been destroyed by fire with loss of $50,000.

MERCED, CAL.—Morgan Adams will erect corrugated iron warehouse on Front St.; also 2-story 12-room lodging house.

REDDING, CAL.—Library trustees propose to erect Carnegie Library building next to Hotel Lorenz.

REDWOOD CITY, CAL.—It is reported that Fair Oaks capitalists are to build a $250,000 hotel on the Halfway place.

SACRAMENTO, CAL.—Fire destroyed Holbrook, Merrill & Stetson's store, 221-3 J. St., with loss of $140,000. T. L. Enwright is Mgr.

SAN FRANCISCO, CAL.—The new high school will be four stories, pressed brick and stone and cost $378,000. Henry Kuhl, Arch. The same architect has finished plans for the 70 × 76-ft. Polytechnic high school building. Cost, $250,000.

SAN FRANCISCO, CAL.—M. L. Cook will erect a 6-story and basement building at Second and Minna Sts. at cost of $60,000.

SANTA BARBARA, CAL.—Francis Wilson, Arch., has completed plans for Santa Barbara Club building and bids for construction are now invited.

PHOENIX, ARIZ.—Bids are asked by A. C. Tonner, Acting Comr. Indian Affairs, Washington, D. C., until June 3, for constructing brick hospital, with plumbing and electric light.

SYDNEY, P. E. I.—Bids are asked until May 30 for erecting brick and stone church. A. Matheson is Secy. Trustees.

EDMONTON, N. W. T.—Bids are asked by board public works until May 28 for erecting jail. F. Gelinas, Secy.

WATER SUPPLY AND IRRIGATION.

(For foreign water supply and irrigation, see under "Mexico," and "Foreign Contracts and Export News.")

EASTHAMPTON, MASS.—We are informed that the proposed extensions of the water system are under consideration and that E. C. & E. E. Davis, Cons. Engrs., Northampton, Mass., are making plans, etc., for a dam and pumping station.

GARDINER, MASS.—We are informed that the town has acquired the works of the local water company. The price to be paid has not yet been determined and the matter is in hands of special commission. C. O. Bent is Chn. Water Com.

MERRIMAC, MASS.—It is stated that special committee on advisability of installing works and electric light plant are to report at once.

SHELBURNE FALLS, MASS.—G. W. Jenks, Town Clk., writes us that a committee has been appointed to look up gravity water supply. No action will be taken before this report is made. J. W. Thurber is Chn. Com.

SOUTH GROVELAND, MASS.—Works discussed.

ANSONIA, CONN.—Resolution passed authorizing Ansonia Water Co. to increase capital stock to $400,000.

NEW BRITAIN, CONN.—P. J. Egan, Clk. Water Comrs., writes us that the following bids were received May 14 for constructing two dams, etc., at Wolcott: F. Stewart, Son & Co., Boston, Mass., $53,300; Tracy & Larkin, Derby, Conn., $41,240; C. E. Trumbull & Co., Boston, Mass., $39,497; Frank Ridgrove, Saugerties, N. Y., $38,354; Fred. S. Levy & Co., Sprinfield, Mass., $35,954; Troy Public Works Co., Utica, N. Y., $35,839; Egler & Bunting, Boston, Mass., $29,352; Jehell Vaughn, Stowford, N. Y. (contract awarded), $24,236.

WATERBURY, CONN.—The contract for water mains on several streets has been let to J. W. McCarthy for $3,454.

WILLIAMANTIC, CONN.—A water main is to be laid in South St. at a cost of about $3,500.

ARCADE, N. Y.—Stated that the plant of the Cattaraugus & Wyoming Water Co., David W. McNair, Pres., is to be enlarged and improved. The company has also been considering advisability of extending works 30 miles to Buffalo.

BATAVIA, N. Y.—The Rochester & Lake Ontario Water Co. has offered to furnish this city with water. If the offer is accepted it is said that $1,000,000 would be invested in the business.

ELMIRA, N. Y.—$2,500 has been appropriated for a feed water purifier and $5,000 for a new spillway at the Elmira Reformatory.

GOVERNOR'S ISLAND, N. Y.—The following bids were received May 13 for laying 6-in. water main with proper connections to buildings, as advertised in Engineering News; T. Norman, Q. M.: (1) bid for total work, (2) bid without excavation and back fill: Robt. L. Christie, 103 E. 125th St., New York, (1) $10,600, (2) $8,989; Jos. Bauer, 388 Wallabout St., Brooklyn, N. Y., (1) $15,494, (2) $13,494; J. J. Mullen, 748 Lexington Ave., New York, (2) $10,475; R. B. Lewis, 321 W. 116th St., New York, (1) $9,950, (2) $7,700; Norton & Dalton, 215 W. 125th St., New York, (1) $16,779, (2) $12,715.

ILLION, N. Y.—Bids are asked until June 9 for constructing improvements of the water supply system, consisting of a 63,000,000-gallon reservoir, a 45 × 200-ft. filter bed and various pipe lines, valves, specials, etc. Knight & Hopkins, Engrs.; C. M. Gray, Pres. Water Comrs. (See advertising columns.)

LAKE PLACID, N. Y.—Village has purchased local works for $25,000.

LONG ISLAND CITY, L. I.—The $200,000 appropriated by the board of estimate for the water supply improvement of Queens Borough will be spent mainly in laying larger mains in the Hunter Point section and for new well and machinery at Station No. 3, according to a press report, which gives G. A. Rerullier, Deputy Comr., Water, Gas & Electricity, as its source of information.

MEDINA, N. Y.—$2,000 is to be expended in seeking a source of supply for city works. It is also stated that the Medina Water-Works Co. contemplate building a slow sand filtration plant.

NORTH TONAWANDA, N. Y.—Bids are asked until June 15 for laying 24-in. cast-iron force mains, with 24-in. flexible cast-iron pipe crossing river. John Kaiser, Pres. Bd. Pub. Wks. (See advertising columns.)

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

SARANAC LAKE, N. Y.—$45,000 voted for new supply.

SCHENECTADY, N. Y.—Bids are asked until June 8 for pumping plant and improvement of water supply. H. S. Van Voast, Water Comr. (See advertising columns.)

WHITE PLAINS, N. Y.—Bids are asked until May 28 for removal of two boilers and for furnishing and erecting at pumping station two 80-HP. water tube boilers with all connections and apparatus. Andrew J. Mathews, Pres. Water Comrs.

YONKERS, N. Y.—Bids are asked until June 4 for furnishing water gates, water pipes, and specials. Allen Hazen, St. Paul Bldg., New York, Des. Engr. Joseph H. Beall, Pres. (See advertising columns.)

ATLANTIC CITY, N. J.—The contract for installing 3,000,000-gallon pumping plant, bids for which were called May 5, as was advertised in Engineering News, has been let to the Pneumatic Engineering Co., 100 Broadway, New York, at $7,935, for an air-lift pump. Bids for the pipe, etc., for this work are given under Contract Prices.

BRIDGETON, PA.—Council said to be discussing increasing capacity of works at cost of $50,000.

LEBANON, PA.—City votes June 16 on securing $150,000 for an additional pipe line to the supply dams at South Mountain. E. H. Shroff is Supt. W.-W.

MARCUS HOOK, PA.—Committee, of which J. C. Collins is a member, is to look into matter of works and sewers for this borough.

NAZARETH, PA.—The Nazareth Water Co. is having plans made for a gravity system at this place. A 500,000-gallon reservoir will be erected.

PHILADELPHIA, PA.—An ordinance is before the council calling for $5,000,000 to continue the work of filtering the city water supply.

PHILADELPHIA, PA.—Bids are asked by the American Pipe Manufacturing Co., J. W. Ledoux, Ch. Engr., Fidelity Bldg., until May 28 for constructing 3,500,000-gallon reservoir near Scarsdale, N. Y. (See advertising columns.)

WASHINGTON, D. C.—The government has temporarily set aside 460,000 acres of public land in the Blackfoot District, Idaho, for irrigation purposes.

WASHINGTON, D. C.—Bids are asked until May 29 for constructing complete water and sewer systems at Fort Shaw School, Mont. The works are to consist of pump and a reservoir. A. C. Tonner, Acting Comr. Indian Affairs.

WELCH, W. VA.—The Welch Water, Light & Power Co. now operating the water-works system and electric light plant in this town, proposes during the coming summer to lay about 4,000 ft. of 4 and 6-in. water pipe, 12 fire hydrants and install about 20 gate valves; also to double the capacity of its electric light plant by the addition of new boilers, engines and generators; also introduce a new pump for its water-works system. The company will issue $25,000 in bonds to cover the above improvements. D. J. Howell is Mgr. and Treas., 605 19th St., N. W., Washington, D. C.

KINSTON, N. C.—Works voted for.

LANCASTER, KY.—Jerry Redfern, C. E., wants prices on a 60-ft. steel tower of 40,000 galls. capacity, 226 tons 8-in. water main, 78 tons 6-in., and 53 tons of 4-in.; two 40-HP. boilers, two pumps, standard make, daily capacity, 250,000 galls. each.

PADUCAH, KY.—The Paducah Water Co. has decided to at once install a $100,000 filter plant, thus increasing its capacity 5,000,000 gallons daily.

CLEVELAND, O.—It is stated that the board of public service will recommend the extension of West Side water-works tunnel to crib No. 3. The cost is estimated at about $600,000.——The contract for furnishing 50 4-in. and 154 6-in. hydrants has been let to R. D. Wood & Co., Philadelphia, Pa.

ELKHART, IND.—A special fund is to be created for buying or building works.

GRAND RAPIDS, MICH.—Bids are asked until May 27 for 1,300 tons cast-iron water pipe, valves and hydrants. James Keegan, Pres. Bd. Pub. Wks. (See advertising columns.)

ALTON, ILL.—Reports state that C. H. Venner, Boston, Mass., is to apply for a water-works franchise. If it be granted he will combine the present water-works systems under the name of the Boston Water & Light Co.

MT. CARROLL, ILL.—Residents of West Carroll are asking for extension of mains to that locality.

MILWAUKEE, WIS.—Legislature has allotted about $10,000 to State Agricultural Board for water-works at State fair grounds. George Wylie, Leeds, Wis., is member of board.

PORT WASHINGTON, WIS.—Jacob Cloos, Cons. Engr., Milwaukee, Wis., has been engaged to make plans and specifications for works for this city.

ALTA, IA.—Mains to be extended.

ALBIA, IA.—Works under discussion.

KINGSLEY, IA.—Mayor J. M. Wormly writes us under date of May 12 that contract for extending mains has been let, but town still wanted 500 ft. 4-in. cast-iron mains.

MARSHALLTOWN, IA.—We are informed that plans are under way for a storage reservoir. P. L. Mack is Des. Engr. J. W. Longnecker, Deputy Clk.

OTTUMWA, IA.—Council has passed ordinance granting new franchise to City Water Supply Co.

ROCK RAPIDS, IA.—City was to vote May 18 on purchase of local works for $15,000.

SEDAN, KAN.—Works advocated.

SPRINGFIELD, NEB.—M. G. Nichols, Chn. Village Bd., writes us that no steps have been taken as yet toward works, but a special election will be called soon to vote bonds for a system. The source of proposed new supply is from an artesian well. Population is 600.

CLARK, S. DAK.—City proposes to have works.

PUKWANA, S. DAK.—Works contemplated.

ARMOUR, N. DAK.—Works to be put in. Wm. Moore is Village Pres.

CASPER, WYO.—Surveys are under way for the proposed Devils Gate irrigation project. Hydrographer A. J. Parshall, Cheyenne, is engaged on the work.

BOZEMAN, MONT.—The Bozeman Creek Reservoir Co. has given notice that no bids will be received or contracts awarded June 8 as has been advertised, for constructing a storage reservoir at Mystic Lake. F. W. Bell, Secy. (See advertising columns.)

DILLON, MONT.—Bids are asked until June 10 for constructing water-works system. Doremus & Kelsey, Salt Lake City, Utah, Engrs.; B. F. White, Mayor. (See advertising columns.)

KANSAS CITY, MO.—Missouri Pacific Railway Co. is to lay a private main to its shops in the East bottoms, at a cost of $12,000.

KANSAS CITY, MO.—Board public works has let a contract to James Cotter for a 48-in. steel flow line from Quindaro pumping station to Kaw Point. The contract price was $198,835.

BELTON, TEX.—City will vote on leasing its works to the Belton Water Co. for a five-year term.

ELGIN, TEX.—Bids are asked until May 27 for erection and completion of water-works. General Municipal Construction Co., 191 Elm St., Dallas, Tex., Engrs.; Charles Gillespie, Mayor.

SAN ANTONIO, TEX.—An irrigation system is to be established near here by the Meerscheidt & Steiren Irrigation Co., recently organized with $50,000 capital, by Axel Meerscheidt and others.

PAWHUSKA, OKLA.—Bids are asked until May 23 for repairing reservoirs and cisterns and constructing filters at Osage Indian Boarding School. A. A. Mitscher, U. S. Ind. Agt.

DENVER, COLO.—Bids are asked until May 22 for sinking a 6-in. well at Fort Logan, Colo. Lt. Col. J. W. Pope, C. Q. M., Denver.

WALSENBURG, COLO.—Estimates of works to cost about $8,500 have been made. James B. Dick is Mayor.

ROSLYN, WASH.—Reservoir and new mains under consideration.

SEATTLE, WASH.—Contract for laying water mains on 22d Ave., south, has been let to Frank & Brandon for $5,543.

TACOMA, WASH.—Council has appropriated about $40,000 for improving the city water-works. The chief items are $18,000 for a 4,000,000-gallon reservoir and $18,355 for constructing 16, 18 and 20-in. water mains.

TACOMA, WASH.—The contract for constructing and equipping two air lift wells in South Tacoma has been let to the Ingersoll-Sargent Drill Co., New York, N. Y., for $14,875.

THE DALLES, ORE.—T. J. Senfest, Pres. Water Comrs., writes us that the city is acquiring right of way for four-mile extension of water supply pipe. The matter of bonding city for $50,000 for the work will be voted on June 15. E. W. Cummings, Seattle, Wash., is Des. Engr.

ALTURAS, CAL.—Works reported for this place.

ORANGE, CAL.—Municipal works considered.

SANTA BARBARA, CAL.—We are informed that $200,000 bond issue has been voted for extending tunnel through Santa Yuez mountains for three miles for water supply for municipal works. J. P. Lippincott, 416 Byrne Bldg., Los Angeles, Cal., Des. Engr.

YREKA, CAL.—City has purchased Churchill pumping plant system for $13,000 and Scheid gravity system for $7,500.

JULIETTE, IDAHO.—Reported that franchise for works is to be granted Mackintosh & Weber.

PRICE, UTAH.—The Mammoth Reservoir & Irrigation Co., will, it is said, construct a canal from Price River to the companies lands. J. C. Macfarlane, St. George, Utah, has been making the surveys.

SALT LAKE CITY, UTAH.—The council finance committee has recommended that $75,000 be appropriated this year for beginning work on a storage reservoir in Parley's Canyon.

SYDNEY MINES, N. S.—The contract for material for local water-works has been let to the Montreal Pipe Foundry Co., Montreal, Que. The system will cost about $77,500 and about 55,800 ft. of pipe will be put in.

CHARLOTTETOWN, P. E. I.—The contract for a pumping station here has been let to T. A. McLean.

LEVIS, QUE.—Contract for constructing local works, amounting to about $300,000, has been let to Powers & Dussault, Quebec.

NIAGARA FALLS, ONT.—John Robinson, Supt. W.-W., writes us that tenders are to be asked soon for a 3,000,000-gallon double plunger pump, for which $12,100 has been voted.

STRATFORD, ONT.—City has purchased works of local water company and will run them under the municipal ownership plan. The price was $97,913. Thomas Clarke is Mgr.

TORONTO, ONT.—City engineer has recommended that about 3,550 ft. 12-in. main be laid in Dundas St. at cost of about $8,374.

BONDS.—Clayton, Ala., through J. S. Williams, Mayor, is asking for bids until June 3 for sale of $20,000 municipal water-works and electric light plant bonds. J. J. Winn, Jr., Cy. Clk. (See advertising columns.)——New Britain, Conn., is to issue $75,000 of reservoir construction bonds.——Saranac Lake, N. Y., votes to issue $45,000 of bonds for new water supply.——Kingston, N. C., votes $150,000 of bonds for water-works and street improvement.——Memphis, Tenn., will sell $1,250,000 of water-works bonds May 29. J. J. Williams is Mayor.——Evelett, Minn., has voted on $40,000 bond issue for improving water-works.——St. Cloud, Minn., will issue $100,000 water-works purchase bonds.——Wilmot, S. Dak., votes to issue $6,000 bonds for water-works.——Armour, N. Dak., will sell $10,000 bonds to put in works. Wm. Moore is Pres.——Alva, Okla., through Jas. D. Hunter, Cy. Clk., will receive bids until May 26 for $35,000 water-works extension bonds.——Santa Barbara, Cal., votes to issue $200,000 of bonds for extending water system. (See item elsewhere in this column.)——Santa Rosa, Cal., may issue $75,000 of water and street bonds, as was recommended by the mayor.——Lebanon, Pa., votes June 16 on $500,000 bond issue for water-works, sewers and street paving purposes. I. L. Beckley is Cy. Clk.

NEW COMPANIES.—Washington Water Supply Co., Washington, Pa.; $10,000; John W. Balliet, Slatington, Pa.; J. L. Gabel, I. E. Seidle, Lehighton, Pa.——Uncompahgre Valley Water Users Association, Delta, Colo.; $2,500,000; John C. Bell, Geo. S. Conklin, A. H. Stockham. The company proposes to distribute the waters of the projected Gunnison tunnel.——Little Butte Irrigation Co., Ltd., Blackfoot, Idaho; $4,000; C. W. Berryman, T. R. Jones, J. C. Fisher.——The Spring Valley Water Co., San Francisco, Cal., has reincorporated with $28,000,000 of capital stock. Edw Gingue is a director.——Tonopah Water Co., Tonopah, Cal.; $1,000,000; E. G. Wheeler, W. H. Chickering, John S. Sutton.

SEWERAGE.

(For foreign sewerage work, see under "Mexico," and "Foreign Contracts and Export News.")

LUDLOW, VT.—A sewer will be constructed in South St.

PALMER, MASS.—W. H. Brainerd, Engr., writes us that 4,000 ft. of 10-15-in. sewers will be constructed at cost of $5,000.

PROVIDENCE, R. I.—Another $100,000 appropriated for extending sewer system.

WOONSOCKET, R. I.—Bids are asked until June 1 for constructing about 1,680 ft. of from 8 and 10-ft. sewer, and filter bed about 140 × 280 ft. and 5 ft. deep, as described in our advertising columns. Address Board of Sewer Commissioners. Frank H. Mills, Cy. Engr.

BRISTOL, CONN.—The Queen St. sewer will cost between $4,500 and $5,000. Sewers may be constructed in Jacobs, West and Gaylord Sts. T. H. Brown, E. F. Griffith and F. Dutton, Sewer Com.

ROCKVILLE, CONN.—Filter beds may be constructed at cost of $25,000.

ALBION, N. Y.—$3,400 appropriated for sewage plant at the Western House of Refuge for Women.

BATAVIA, N. Y.—Plans are being prepared for alterations and repairs to sewer system. Cost, $10,000. J. W. Holmes is Cy. Engr.

CANAJOHARIE, N. Y.—J. Vaughn received contract for constructing sewer system at $34,400.

NIAGARA FALLS, N. Y.—The Carter-Cunne Co. will construct lateral sewer in Highland Ave. at their own expense and be reimbursed by the city as soon as there is available funds.

SKANEATELES, N. Y.—Sewer system being discussed.

BORDENTOWN, N. J.—City contemplates purchasing private sewer system and extending same. W. H. Kunzi is Clk.

MILLBURN, N. J.—Bids are asked until June 8 for constructing 21,150 ft. of 8-in. pipe sewer, 54 manholes, 17 flush tanks and 500 cu. yds. of rock. Wellington Campbell, M. D., Chn. Township Com.; Alexander Potter, Ch. Engr., 150 Nassau St., New York. (See advertising columns.)

NORTH PLAINFIELD, N. J.—Sewer system being discussed. B. A. Hegeman, Jr., interested.

BRYN MAWR, PA.—The following bids have been received for constructing over 40 miles of sanitary sewers: H. B. Oliver, New Brunswick, N. J., section 3, $18,500; section 4, $30,806; David Peoples, Philadelphia, Pa., general bid, entire work, $248,000; Chas. D. Land & Co., Philadelphia, section 6, $23,427; section 7, $42,085; Municipal Engineering Co., Chicago, Ill., section 1, $70,716; Bowman Bros. (contract awarded), McKeesport, section 1, $71,983; section 2, $21,433; section 3, $19,515; section 4, $30,106; section 5, $25,789; section 6, $22,158; section 7, $40,048; total, $232,031.71; J. H. Jordan, section 1, $76,865; W. B. Stone, Philadelphia, section 5, $19,588; Frech & Callan, Flemington, N. J., section 2, $27,850. Pumping station bids: Smedley Construction Co., Philadelphia, $29,491; J. H. Jordan, $33,535; Bowman Bros., McKeesport, $24,891.

DANVILLE, PA.—A pipe sewer will be constructed in Blizzard's Run at cost of $20,000.

ERIE, PA.—Bids will be asked for constructing 18-in. sewer in Torrade and 18th Sts.

SOUTH BETHLEHEM, PA.—Jas. Nagle & Son, Allentown, received contract for constructing sewer system at $100,000. Brick, concrete and expanded metal will be used.

BALTIMORE, MD.—A sewer may be constructed in Carroll Park. F. Waters is Clk. Council.

RUSHVILLE, MD.—A. L. Stewart, Cy. Engr., writes us that plans for 12 or 15 miles of 4 to 24-in. sanitary sewer will be ready about August.

WASHINGTON, D. C.—Bids are asked until June 6 for constructing sections B and C of the B St. and New Jersey Ave. trunk sewer. H. B. McFarland, H. L. West, J. Biddle, Comrs.

WASHINGTON, D. C.—Bids are asked until May 29 for constructing water and sewer system at Fort Shaw Indian school, Fort Shaw, Mont.

AUGUSTA, GA.—Hallahan & Costello received contract for installing sewer system at the Augusta Arsenal.

ANSONIA, O.—Bids are asked until June 4 for constructing pipe sewers and appurtenances. Cost, $5,000. C. A. Ackerman, Village Clk. (See advertising columns.)

GENEVA, O.—C. D. Crowthers, Clk., writes us that bids will soon be asked for constructing sewer in Cedar and other streets. B. F. Hewitt, Des. Engr.

SPRINGFIELD, O.—Ulrich & Williams received contract for constructing sewer system, at $43,426.

INDIANAPOLIS, IND.—J. B. Nelson, Cy. Engr., writes us that bids are asked until May 25 for constructing 52,120 ft. of 10-22-in. pipe sewer, and furnishing 188 manholes. Cost, $117,000.

DETROIT, MICH.—Bids will soon be asked for constructing four lateral sewers. D. H. Moreland is Cy. Comr.

GRAND HAVEN, MICH.—J. W. Alvord, Hartford Bldg., will prepare plans and specifications for a sewer system.

BELLEVILLE, ILL.—G. H. Brineke, Cy. Clk., writes us that the following bids have been received for constructing 4,000 ft. of sewer in West Main St.: Reeb Bros., 341 Centerville Ave., $13,650 (contract awarded), and Mannie Hoeffken, 222 West B St., $13,970.

BELVIDERE, ILL.—Sewer will be 4,500 ft. and cost $4,000.

KANKAKEE, ILL.—R. D. Gregg, Cy. Engr., has completed survey for extending the Station St. sewer 1,600 ft.

MACOMB, ILL.—C. V. Chandler and others will construct sewer in West Carroll St.

POLO, ILL.—Plans and specifications have been prepared by J. W. Alvord, Sanitary Engr., for sewer system.

BURLINGTON, IA.—E. Steece, Cy. Engr., writes us that bids are asked until June 15 for constructing 3,340 ft. of 4-8-ft. sewers.

DES MOINES, IA.—Engineers Fiske and Morley are planning Bradway Heights sewer system.

ELDORA, IA.—Sewerage will cost $10,000.

MINNEAPOLIS, MINN.—Hamline Ave. sewer ordered.

CHANUTE, KAN.—Wm. Oesting received contract for constructing main sewer at $10,600.

LAWRENCE, KAN.—Bids are asked by Office Indian Affairs, Washington, D. C., until June 12, for constructing tile drainage system at Haskell Institute. A. C. Tonner, Acting Comr.

FARGO, N. D.—Bids are asked until May 25 for constructing about 1,000 ft. of 12-in. pipe sewer. H. J. Gibson, Cy. Auditor.

FORT MISSOULA, MONT.—Allan Black & Co., St. Paul, Minn., submitted lowest bid for constructing sewer system at $6,142. Col. G. E. Pond, Deputy Q. M., Dept. of Dakota.

BEAUMONT, TEX.—H. W. Downie & Co. received contract for sewerage at $75,000.

EL PASO, TEX.—A new system of sewers and water-works will be installed at Fort Bliss. S. P. Brosius, Civil Engr., will prepare plans.——Sewers may be extended.

BROOKLYN, WASH.—A sewer system will be built with an outlet into Lake Union, at cost of $108,500.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

TACOMA, WASH.—E. M. Moore received contract for sewer in district No. 133, at $8,712.——In district No. 136, 18-in. pipe sewers will be constructed. Cost, $5,199. S. P. Buckmaster is Comr. Pub. Wks.——J. J. Toeter received contract for constructing sewers in district No. 135, at $3,350.

SUMPTER, ORE.—Sewer system will probably be constructed this summer. City Engineer Fenner is preparing estimates.

ALAMEDA, CAL.—Sewer will be constructed in Everett St.

LOS ANGELES, CAL.—H. G. Register received contract for outfall sewer, at $16,855.

OAKLAND, CAL.—An 8-in. pipe sewer will probably be constructed in 59th St. C. F. Ott is Street Supt.——Petitions presented for sewering various streets.

PLACERVILLE, CAL.—Sewer will be constructed in Spring St.

SANTA MONICA, CAL.—A sewer will be constructed in Lake St.

SANTA ROSA, CAL.—A septic tank system will probably be installed.

BONDS.—San Diego, Cal., will receive bids until June 22 for purchasing bonds, $140,000 of which is for constructing sewer system.——Wilmington, Del., will probably issue $90,000 for Price's Run sewer.——Bids are asked by Schenectady, N. Y., until May 27 for purchasing $125,000 sewer bonds.

GARBAGE DISPOSAL—STREET CLEANING

(For foreign garbage disposal and street cleaning, see under "Mexico;" "Foreign Contracts and Export News.")

BUFFALO, N. Y.—Bids are asked until May 29 for the collection and disposal of dirt, ashes, garbage and general refuse for a period of five years. Francis G. Ward, Comr. Pub. Wks.

SYRACUSE, N. Y.—The "Herald," a daily newspaper of this city, desires information regarding the collection of garbage.

ELIZABETH, N. J.—Board of Trade is advocating sprinkling of all the city streets.

CINCINNATI, O.—Reported that board public service is to arrange for construction of $75,000 crematory.

PERU, IND.—Reported that bids are being asked for city garbage removal for term of one year.

SOUTH BEND, IND.—W. A. McInerny, Pres. Bd. Pub. Service, writes us that a contract for a crematory has been let to the Dixon Garbage Crematory Co., Toledo, O. The plant has a capacity of 25 tons a day and it is proposed that the city collect the garbage under direction of street department.

TOPEKA, KAN.—It is stated that the American Underwriting Co., Boston, Mass., proposes to erect a garbage disposal plant in this city before Oct. 1.

STREETS AND ROADS

(For foreign streets and roads, see under "Mexico," and "Foreign Contracts and Export News.")

LACONIA, N. H.—City engineer's estimate for paving Water St. with block and Elm St. with cobble stones and macadam amounts to $12,363; with concrete, $7,172.

BOSTON, MASS.—Surveys completed for driveway around Walden Pond, in Lynn woods. N. Mortimer Hawkes is Comr.

CHELSEA, MASS.—An appropriation of $5,200, made for paving Second and Washington Sts.

HAVERHILL, MASS.—Bids are asked by street committee until June 1 for furnishing 2,500 ft. granite edgestones and 40,000 granite paving blocks. A. L. Gillen, Clk. (See advertising columns.)

HYDE PARK, MASS.—Hyde Park Ave. will be improved at cost of $225,000.

NORTH ADAMS, MASS.—Union St. will be paved at cost of $17,915.

PITTSFIELD, MASS.—North, South and West Sts. will be paved; $100,000 appropriated.

SALEM, MASS.—Lafayette St. may be paved. Cost, $25,000 to $30,000. Palmer St. may be extended to connect with Park and Pingree Sts.

WORCESTER, MASS.—The state highway commission will build a state road to connect Grove St. with the state road in Holden. Cost, $10,000.

NASONVILLE, R. I.—Appropriation of $3,000 made for macadam road.

CENTRAL FALLS, R. I.—Fletcher St. will be macadamized at cost of $2,870.

BRIDGEPORT, CONN.—Bids are asked until May 29 for laying about 4,100 sq. yds. brick, wood or bituminous macadam pavement. H. G. Scofield, Cy. Surv.; E. T. Buckingham, Clk. (See advertising columns.)

ALBANY, N. Y.—Bids are asked until June 8 for improving various public highways. Edw. A. Bond, State Engr. and Surveyor. (See advertising columns.)

BROOKLYN, N. Y.—Some 60 grade crossings of highway and railroads will be abolished.

NEW YORK, N. Y.—Bids are asked by Park Dept., Fifth Ave. and 64th St., until May 28 for paving roads and walks with asphalt. W. R. Wilcox, Comr.

NEW YORK, N. Y.—(See Bridges.)

NIAGARA FALLS, N. Y.—Engineer McCulloh's estimate for paving Ashland Ave. 26 ft. wide is $9,789.——Repairing of pavements will cost about $1,000.

ROCHESTER, N. Y.—The Rock Asphalt Pavement Co. received contract for paving Chatham St. at $6,835.——Arklow St. will be paved with asphalt at cost of $4,000.

ROCHESTER, N. Y.—Whitmore, Rauber & Vivinus received contract for paving part of West Ave. at $21,414; also Rock Asphalt Pavement Co., at $4,120.

SANDY HILL, N. Y.—Bids are asked until May 28 for laying about 30,000 sq. yds. of brick pavement. O. C. Richards, Engr. (See advertising columns.)

TROY, N. Y.—The repairing of Fifth Ave. will cost about $5,000.

UTICA, N. Y.—The following asphalt paving contracts have been let: Asphalt Paving Co., 10 streets $85,072, and repairs $3,381; Syracuse Improvement Co., five streets, $47,364, and W. W. Fowler, one stone pavement, $2,487.

FORT MOTT, N. J.—Bids are asked until June 6 for constructing 16,000 sq. ft. concrete walks. Address Q. M.

HOBOKEN, N. J.—Bids are asked until May 27 for paving and grading Ninth Ave. Jas. H. Londrigan, Cy. Clk.

MT. HOLLY, N. J.—Bids are asked until June 8 for constructing 12 miles of macadam roads, as described in our advertising columns. John E. Darnell, Dir. Bd. Chosen Freeholders.

EBENSBURG, PA.—We are informed that Costello & Neagle received contract for paving 30,000 sq. yds. with brick.

BIRMINGHAM, ALA.—Avenue H, 21st and 25th Sts. will be macadamized.

MOBILE, ALA.—A macadamized road 120 miles long is considered. Other road improvements will be provided for by $100,000 bond issue.

ALEXANDRIA, LA.—Epple & Hayes received contract for constructing three miles of sidewalk at $13,000.

MEMPHIS, TENN.—Thirteen streets will be paved.——The Eastmoreland Land Co. will spend $10,000 on improving streets.——Fifth St. will probably be opened.

LOUISVILLE, KY.—Broadway will be paved with asphalt at cost of $75,000. Distance, 6,940 ft.

CLEVELAND, O.—Five streets will be paved, drained, etc., and sidewalks constructed on various other streets.

ELYRIA, O.—Middle Ave. will soon be paved with brick.

HAMILTON, O.—Bids are asked until June 6 for crushed stone on Banning road.

PORTSMOUTH, O.—Paving on various streets contemplated.

SPRINGFIELD, O.—North Limestone St. will probably be macadamized at cost of $6,805.

STEUBENVILLE, O.—Bids are asked until June 8 for macadamizing Portland and Dillondale turnpikes. Chris. Meskel, Engr., Laurelton.

WAUSEON, O.—Bids are asked until June 12 for grading, draining and graveling several miles of road. J. E. Morrell, County Auditor.

WELLSVILLE, O.—Contract will soon be let for paving Market St.

ALEXANDRIA, IND.—Bids are asked until June 4 for constructing sidewalks in Monroe St. J. Brettel, Clk.

BLUFFTON, IND.—Bids are asked until June 1 for paving 25 blocks.

DELPHI, IND.—Election will be held in Deer Creek township, June 9, to vote upon constructing gravel roads. Cost, $50,000.

ELLWOOD, IND.—Bids are asked until June 1 for paving various streets with brick. C. M. Parsons, Cy. Clk.

INDIANAPOLIS, IND.—City Engineer Nelson has recommended that the Marion County Construction Co. be awarded contract for asphalt pavements in 13th St.

MARION, IND.—Marion County Construction Co. received contract for paving 13th St. with asphalt.

NEWCASTLE, IND.—Main, Broad and 14th Sts. will be paved.

NEW HARMONY, IND.—Bids are being received for constructing 26 miles rock road. Cost, $65,000. Address County Comrs.

PAOLI, IND.—Bids are asked until June 4 for constructing 3 miles of West Baden and Huron roads.

PRINCETON, IND.—Bids are asked by county commissioners until June 2 for constructing 10 separate roads, comprising of 29 miles, and 2,262 ft. of macadamized roads. Estimated cost, including culverts, bridges, damages, etc., $88,101.

SALEM, IND.—Bids are asked by board commissioners until May 28 for constructing 10 miles macadam road in Brown township. F. E. Morris, Auditor.

TERRE HAUTE, IND.—Petition filed with board public works for paving East Wabash St. with brick. Plans will probably be prepared at once.

UNION, IND.—J. E. Hart, Veevy, received contract for constructing 24 miles and 2,498 ft. of gravel roads, at $64,500.

VERSAILLES, IND.—Bids are asked until June 2 for constructing about 9 miles of macadamized road. J. A. Spencer, Auditor Ripley County.

SAGINAW, MICH.—The sum of $300,000 will probably be spent on paving streets.

CHICAGO, ILL.—Property owners are in favor of paving downtown streets with asphalt.——The Citizens' Construction Co.'s bid for paving West Lake St. is $107,700. Various other streets have been ordered paved with asphalt at cost of $189,000.——The following have received contracts for constructing 6-ft. cement sidewalks in various streets: Lemling & Wendt, Illinois Portland Cement Paving Co., Wm. E. McEvoy, Thos. W. Sennott and others.

ASHLAND, WIS.—Bids are asked by board public works until June 9 for paving various streets with asphalt. A. D. McDonald, Bd. Pub. Wks.

JEFFERSON, WIS.—Bids are asked until May 26 for laying 3,508 sq. yds. of macadam, 2,088 ft. cement gutter, etc. E. C. Blake, Engr., Madison; J. J. Spangler, Cy. Clk.

LA CROSSE, WIS.—Street improvement has come to a standstill, except Third St. paving, until it is positively assured that the bonds are legal.

MILWAUKEE, WIS.—Contracts for paving Wisconsin Ave., Williams St. and part of Arcadian Ave. have been let to A. Dieman & Son. Cost, $30,000.

DUBUQUE, IA.—Asphalt paving being discussed.

LANCASTER, IA.—About 2,000 ft. of road will be macadamized. Cost, $3,000.

DULUTH, MINN.—Superior St. paving will cost $27,626.

ST. PAUL, MINN.—Board public works awarded Thos. Linnman contract for grading Forest St. at $3,712.

WICHITA, KAN.—Petition presented for paving First St. with asphalt. Other petitions in circulation.

CANDO, N. D.—J. C. Fox received contract for constructing Park Ave. sidewalks.

ST. LOUIS, MO.—Boulevard from northern city limits along Kings Highway contemplated.

DECATUR, MO.—Barber Asphalt Co. received contract for paving East Main, North Water and Bradford Sts. with asphalt at $35,000.

JEFFERSON CITY, MO.—Roads may be macadamized.

ST. JOSEPH, MO.—Various streets will be paved.——$2,500 appropriated for paving King Hill Ave.——A. J. Armstrong received contract for macadamizing about 11,650 ft.

BEAUMONT, TEX.—H. W. Downie & Co. received contract for paving at $290,000.

HOUSTON, TEX.—Paving being discussed.

BESSEMER, COLO.—City Engineer Hathaway will prepare plans and specifications for paving.

SEATTLE, WASH.—Lee St. will be improved by grading and constructing concrete sidewalks. W. H. Parry is Pres. Council.——F. McLellan was lowest bidder for paving First Ave. at $101,160. The Coast Concrete Co. was the lowest bidder for improving Washington St. and 12th Ave., at $7,161.

TACOMA, WASH.—The paving of C St. being discussed.——J St. will be graded and sidewalks constructed. J. S. Jones is Pres. Council.

PORTLAND, ORE.—Pine St. will be paved with stone at cost of $11,000.——W. C. Elliott will prepare plans and specifications for paving Burnside St. with asphalt. Estimated cost, $32,000.——Water and Hood Sts. will be paved with stone blocks at cost of about $41,943.

ALAMEDA, CAL.—Petition presented for bituminizing Santa Clara Ave.

FRESNO, CAL.—Merced St. will be paved.

NAPA, CAL.—Petition received asking for macadam pavement on Franklin St., between Elm and Ash Sts.

REDDING, CAL.—Cross St. will be paved with macadam. Twenty other streets to be improved. W. G. Dozier is Clk.

STOCKTON, CAL.—Bids will soon be asked for constructing bitumen sidewalks. G. S. Wheatly is Clk.

SANTA MONICA, CAL.—Fourth St. will be regraded.

FLAGSTAFF, ARIZ.—Bids are asked until June 1 for grading court house grounds, grading streets and constructing sidewalks. Thos. A. Flynn, Clk.

BOISE, IDAHO.—Main St. will probably be paved.——Eighth St. will be paved with brick. Cost, $22,985.

STRATFORD, ONT.—$1,100 appropriated for improving roads.

BONDS.—Santa Barbara, Cal., will issue bonds, $50,000 of which will be for constructing boulevard.——Mill Valley, Cal., will decide June 6 upon issuing $37,000 for paving, grading, etc. S. H. Roberts is Town Clk.——$300,000 may be issued by Jefferson City, Mo., for good roads.——Canandaigua, N. Y., will issue $200,000 paving bonds.——An issue of $195,000 will be voted upon by Omaha, Neb., $75,000 of which will be for paving.

MANUFACTURING PLANTS.

(For foreign miscellaneous contracts, see under "Mexico," and "Foreign Contracts and Export News.")

PUTNEY, VT.—Press reports state that William Robertson & Sons' paper mill has been burned, causing a loss of $15,000, with insurance of $9,000.

LYNN, MASS.—The General Electric Co.'s plant is to be enlarged by the construction of three more buildings, the largest of which is to be 350 × 650 ft., and is to be built of steel.

NEW BRITAIN, CONN.—The Russell & Ewin Manufacturing Co. is having plans drawn for a new engine house, of brick, 54 × 76 ft. A Corliss engine of a maximum of 1,500 HP. is to be installed.——It is stated that the Corbin Cabinet Lock Co. has postponed its building arrangements for erecting a plant at New Britain.

WATERTOWN, N. Y.—The contract for constructing a dam 300 ft. long and 16 ft. high for the Raymondville Paper Co. has been let to the Beardsley Gravity Dam Co., Elkhart, Ind.

CAMDEN, N. J.—The Keystone Leather Co. has invited estimates for a 2-story brick, slow-burning addition to its plant. New equipment will be installed.

GLOUCESTER, N. J.—The South Jersey Ice Co., H. R. Fisher, Mgr., contemplates building new ice manufacturing plant in Camden.

MAYWOOD, N. J.—Baldwin & Pennington, Archs., 44 South St., Baltimore, Md., are making plans for a factory at this place for the Emerson Drug Co., Baltimore. Building to be of brick and steel, of two stories, 165 × 75 ft. and 60 × 40 ft. New power equipment and special machinery will be installed.

BATH, PA.—The contract for furnishing all the heavy power transmission machinery, such as shafting, rope drives, bearings, etc., for the equipment of the new Portland cement plant at Bath, Pa., now being erected by the Penna. Construction Co., has been let to the Webster Mfg. Co., 1075 West 15th St., Chicago.

CLAIRTON, PA.—Press reports state that over $5,000,000 will be spent in enlarging the capacity of the blast furnaces and steel works of the Clairton Steel Co.

PHILADELPHIA, PA.—Watson, Henckel & Co., Archs., 1208 Chestnut St., will soon let the contract for a 2-story brick, 80 × 134 ft., addition to the factory of S. W. Eames & Son in Frankford.——Plans are being made for a 3-story brick addition to cigar box factory of H. H. Sheip Mfg. Co., Randolph St. and Columbia Ave. New equipment will be required.——The Philadelphia Steel & Iron Co., Trenton Ave. and Margaret St., will soon let the contract for an addition to its plant. New equipment will be required.

PHOENIXVILLE, PA.—J. B. Lowrey writes us that plans are being made for proposed brewery at Coatesville. The company, however, is not yet in shape.

SAYRE, PA.—The Lehigh Valley R. R. shop at this place is to be enlarged at an expenditure of $3,000,000. Four new buildings are to be built and the grading of the shop site is to be completed by Aug. 15.

WASHINGTON, PA.—Press reports state that the plant of the Atlas Glass & Metal Co. has been damaged to the extent of $125,000. The insurance was about $65,000.

WILMINGTON, DEL.—Frank Carswell, Arch., Ford Bldg., has asked bids for building a one-story car shop for the Harlan & Hollingsworth Co.; estimated cost, $30,000. New equipment will be installed.

BALTIMORE, MD.—The Broadbent & Davis Mantel Co. are soon to ask for estimates for a 7-story, 125 × 125-ft. brick factory at President St. and East Falls Ave., to cost $150,000. Entire new power equipment will be installed.——North Bros. & Straus, 116 W. Lombard St., are soon to ask for estimates for a 2-story brick boiler and engine house at Pratt and Green Sts. New equipment will be installed.——The Pollock Fertilizer Co., 51 South Gay St., have asked bids for a new plant at Canton, Md. Plant is to be of brick, 200 × 300 ft. and 100 × 150 ft. New equipment will be put in.——Contract for 2-story brick, 100 × 180 ft., factory for Geo. Esselman & Co. has been let to John T. Buckley, 127 Richmond St. New equipment will be installed.

BALTIMORE, MD.—It is stated that the South Baltimore Steel Car & Foundry Co., which is to be formed from the combination of the South Baltimore Car Works, the South Baltimore Foundry and Ryan & McDonald Manufacturing Co., will have about $400,000 available for improvements. A steel car works will be added and the three plants improved. Chas. T. Crane, Farmers' & Merchants' National Bank Bldg., is Chn. Com.

ELKTON, MD.—Press reports state that the Spring Lawn paper mills near Fairhill, owned by the Megargee Paper Mills Co., Philadelphia, have been destroyed by fire.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

BRISTOL, VA.—Plans are soon to be started by Thos. L. Leedom & Co. for a 3-story brick, slow-burning addition to their carpet mill. New power equipment and special machinery will be installed.

GRAFTON, W. VA.—Reported that shops of B. & O. R. R. at this place are to be enlarged at a cost of $60,000.

ANDERSON, S. C.—Reported that $500,000 cotton mill will be erected here soon. Capt. J. M. Brown is a stockholder.

CENTRAL, S. C.—A site for the mill of the Seaqueena Cotton Mill Co. has been selected and construction work will soon commence. J. J. Fretwell, Anderson, S. C., is a director.

AMERICUS, GA.—A $25,000 ice plant may be erected here. E. D. Ansley is interested.

ATLANTA, GA.—The Gulfport Cotton Oil Fertilizer & Manufacturing Co. will, it is said, erect a $250,000 fertilizer plant. E. Van Winkle is an incorporator.

BIRMINGHAM, ALA.—The contract for new plant for Birmingham Fertilizer Works has been let to J. M. Morgan.

HUNTSVILLE, ALA.—The Huntsville Foundry & Machine Works will erect an addition to their plant in this city at an early date.

NEW ORLEANS, LA.—The following bids were received May 12 by the Bureau Yards and Docks, Washington, D. C., for equipment for construction and repair shops at local naval station: Drew Machinery Agency, Manchester, N. H., $89,480; Niles-Bement-Pond Co., 136 Liberty St., New York, $91,653; Manning, Maxwell & Moore, 85 Liberty St., New York, $101,217; Otis Elevator Co., 71 Broadway, New York, informal; Becker-Brainard Milling Machine Co., Hyde Park, Mass., informal; Fosdick Machine Tool Co., Cincinnati, O., informal; Alliance Machine Co., Alliance, O., informal; J. Clark, Jr., & Co., Louisville, Ky., informal; Northern Engineering Works, Detroit, Mich., informal; Waters' Elevator Manufacturing Co., Spring Grove Ave., Cincinnati, O., informal; Sterling Blower & Manufacturing Co., 85 Liberty St., New York, informal.

CHATTANOOGA, TENN.—A site has been purchased at East Lake and a $50,000 plant is to be erected thereon for the manufacture of wagons.

HARTFORD CITY, IND.—We are informed that the window glass plant of the Blackford Glass Co., Vincennes, Ind., is to consist of six steel and brick buildings, two of which are to be fireproof. The estimated cost is $85,000 and C. Edwards Holden, Mineral City, O., is Arch.

BRAZIL, IND.—It is stated that the Pennsylvania Glass Co. is to remove its plant from Anderson to this city.

INDIANAPOLIS, IND.—Putnam-Meyers Mfg. Co., 1210 Shelby St., is having plans made for a 4-story brick plant to be erected on Kentucky ave.—The Home Store Co., Geo. Alig, Pres., will, it is said, erect a $10,000 branch factory at Greenfield.

MILAN, MICH.—The sad iron and heavy castings department of the Detroit Register Co. are to be moved from Detroit to this city, where a 275 × 100-ft. factory is to be built.

MILWAUKEE, WIS.—The Milwaukee Bridge Co. has taken out a permit for 130 × 145-ft. steel construction shop, to cost about $18,000. It is said that the company intends to triple the capacity of the plant this summer.

SUPERIOR, WIS.—Reported that the Scofield Lumber Co.'s sawmill has been burned, causing loss of $60,000, which is fully covered by insurance.

RENO, NEB.—Wood Fiber Co. is said to contemplate putting in plant here.

LIVINGSTON, MONT.—The Yellowstone Brewing Co. proposes to put in a plant here.

BALLINGER, TEX.—Construction of new cotton oil mill here is to be begun at once. W. A. Norman is Secy.

BEAUMONT, TEX.—The Security Oil Co. will, it is said, erect a $3,000,000 oil refinery in this city. F. W. Weller and Courtney Marshall are interested.

CORSICANA, TEX.—Factory to manufacture axle grease from waste products of oil refineries is to be established by Richardson-Gay Oil Co., capitalized at $30,000. T. J. Gay is an incorporator.

SWEETWATER, TEX.—It is rumored that Texas & Pacific R. R. will remove its shops from Big Springs to this place.

CENTRALIA, WASH.—Reported that mill of Martin Lumber Co., recently destroyed by fire, causing loss of $50,000, is to be rebuilt on a larger scale.

TACOMA, WASH.—The Capitol Box Factory Co. is said to be planning to build a sawmill, 120,000 ft. daily capacity, and a box factory with capacity of 200,000 fruit boxes daily; also a veneer plant and warehouse.

BERKELEY, CAL.—Reports state that Lincoln St. will be macadamized.

SAN FRANCISCO, CAL.—Local reports state that the plant of the American Milling Co., at Battery and Union Sts., which was recently damaged by fire to the extent of about $100,000, will be at once rebuilt.

STOCKTON, CAL.—Russell & Messenger are said to contemplate erection of cotton factory here.

VACAVILLE, CAL.—The Pacific Portland Cement Works will enlarge their plant to admit of a productive capacity of 1,400 bbls.

MOSCOW, IDAHO.—Brewery projected here.

SALT LAKE CITY, UTAH.—Stated that woolen mill is to be established here.

HAMILTON, ONT.—The Westinghouse Co., Pittsburg, Pa., is taking steps to form a Canadian Westinghouse Co. for manufacturing in Canada the apparatus needed to supply that trade.

TORONTO JUNCTION, ONT.—Bids are asked until May 23 for erection of pork packing factory for Canada Packing & Provision Co. John Wilson, Arch., Collingwood, Ont.

MISCELLANEOUS CONTRACTS.

(For foreign manufacturing plants, see under "Mexico," and "Foreign Contracts and Export News.")

STAMP MILL.—Wabigoon, Ont.—The Summit Lake Gold Mining Co. is to install a 20-stamp mill.

MINING MILL.—Baker City, Ore.—The Golden Wizard Co., will, it is said, install a mining mill this fall.

CULVERT.—Oakland, Cal.—Contract for culvert on San Ramon Road has been let to Cotton Bros. for $3,520.

WHARF.—San Luis Obispo, Cal.—N. W. Minor and L. S. Rigson contemplate erection of wharf near Cambria.

SEA WALL.—Manitowoc, Wis.—City is considering building sea wall to protect the Two Rivers Roadway.

STONE CRUSHER.—Woonsocket, R. I.—Council has voted to purchase new stone crusher at cost of $1,600.

AERIAL TRUCK.—Sharon, Pa.—City votes June 16 on $3,500 bond issue for aerial truck for the fire department.

CENCENTRATOR.—Blue Creek, Wash.—The Alice Gold Mining Co. B. F. Parker, Gen. Mgr., is to install a 50-ton concentrator.

STAMP MILL.—Washington, Ont.—Reports state that the Summit Lake Gold Mining Co. will install a 20-stamp mill at that place.

SMELTER.—Wilcox, Ariz.—The Leadville Mining Co., Wm. Holmes, Pres., Pearce, Ariz., is said to intend to install a smelter.

PARK.—Philadelphia, Pa.—The placing of Black Oaks Park at 51st and Pine Sts. on the city plan as a park has been recommended.

WHARF.—San Pedro, Cal.—Southern Pacific & Southwestern Lumber Co. are asking leave to erect a wharf on Wilmington Slough.

DOCK EXTENSION.—Tacoma, Wash.—Decks & Deeks have the contract for a $40,000 dock extension and warehouse for the N. P. R. R.

STEAM TURBINES.—St. Paul, Minn.—P. E. Stevens, 497 Carroll St., St. Paul, wants the names and addresses of makers of steam turbines.

BARGES.—New Orleans, La.—Bids are asked until June 11 for constructing four wooden barges. Capt. Chas. S. Bromwell, U. S. Engrs.

MINING PLANT, CONCENTRATOR.—Rossland, B. C.—The White Bear Mining Co. is said to be planing to build a large plant and concentrator.

MINING MILL.—Ephraim, Utah.—Stated that plans for a small mill at New Year mining claims have been made by C. C. Parker, Eureka, Utah.

WHARVES.—Vancouver, B. C.—It is stated that Robt. Kelly and Frank Burnett are to erect wharves, etc., at False Creek at a cost of $125,000.

HYDRAULIC MINING.—Yreka, Cal.—The Deadwood Placer Mining Co. intends to hydraulic this season its claims, 14 miles north of this city.

BULKHEAD, ETC.—Cape May, N. J.—The contract for a bulkhead and a 2½-mile boulevard has been let to Dietrich & Bowser for about $200,000.

DREDGING.—New York, N. Y.—The contract for dredging Quinnipiac and Mill Rivers has been let to W. H. Taylor, Jersey City, N. J., for $51,690.

ELECTRIC MINING HOIST.—Grass Valley, Cal.—St. John mine will probably be equipped with electric hoist. Charles Stocks is said to be interested.

WHARVES, ETC.—Eureka, Cal.—Stated that Hiram C. Smith will build extensive wharves on Freshwater properties; also dry kilns, warehouses, etc.

LEVEE WORK.—Memphis, Tenn.—It is stated that the St. Francis Levee Board, H. N. Pharr, Ch. Engr., contemplates a large amount of levee work.

SHIP BUILDING PLANT.—Seattle, Wash.—Stated that the Alaska Steamship Co. will expend $40,000 in a shipbuilding and repairing plant in this city.

SMELTER.—Butte, Mont.—It is reported that Senator Clark is to erect a new smelter here for the treatment of copper ores of which zinc is a component part.

RIVER WORK.—South Woodslee, Ont.—The contract for improving and enlarging Ruscom River and Silver Creek has been let to the Chatham Dredging Co. for $17,566.

RIVER OVERFLOWS.—Austin, Tex.—A legislative bill carries an appropriation of $40,000 for a survey of Brazos River and tributaries looking to the prevention of overflows.

FERRY.—New York, N. Y.—The Sinking Fund Commission has voted to establish a ferry between Minley's Pier, South Beach, Staten Island, and Captains Pier, Bath Beach.

BEE HIVE OVENS.—Robson, W. Va.—The Loup Creek Colliery Co. has been asking bids for constructing 500 bee hive ovens on Lower Loup Creek. F. P. Mills is interested.

FIRE BOAT.—Portland, Ore.—A special committee of the executive board has decided to buy the tug "Ernest A. Hamil" and to make it available at a cost of $36,256 for a fire boat.

SMELTER.—Copper Cliff, Ont.—The plant of the Canadian Copper Co., at this place is to be rebuilt under the supervision of the Engineering Co. of America, New York, N. Y.

BULKHEAD.—New York, N. Y.—The contract for building a riprap bulkhead southwest of Governors Island is stated to have been let to J. D. Miller, 31 Cortlandt St., for $92,800.

PIER CONSTRUCTION.—Grand Rapids, Mich.—Bids are asked until June 17 for pier construction at Saugatuck, Mich. Lt. Col. M. B. Adams, U. S. Engrs. (See advertising columns.)

RETAINING WALL.—Paterson, N. J.—County freeholders are considering building a stone retaining wall to cost $9,000 along the Passaic River, from Falls bridge to Westside Park bridge.

FERRY BOAT DAMAGED.—Washington, D. C.—The ferry boat "Columbia," plying between this city and Alexandria, Va., is reported to have been damaged by fire to the extent of $45,000.

RANGE FINDING TOWERS.—New York, N. Y.—Contract for four range finder towers at Fort Totten, N. Y., has been let to New Jersey Foundry & Machine Co., New York, N. Y., for $14,884.

TELEPHONE EXCHANGE.—Philadelphia, Pa.—Plans have been posted by Chas. McCaul Co., for a telephone exchange at Fourth Ave. and Manning St. A new mechanical plant will be installed.

COAL DEVELOPMENT.—Morgantown, W. Va.—It is stated that the Morgantown Coal Co., H. B. Hersey, Secy., 1031 Schofield Bldg., New York, N. Y., will develop 3,000 acres of land near this city.

STEAM BOILERS, ETC.—Washington, D. C.—Bids are asked until May 23 for water tube steam boilers, steel file cases and shelving, etc. Elliott Woods, Supt. U. S. Capitol Building and Grounds.

FENCE WORK.—New York, N. Y.—Bids are asked until May 28 by the Park Board, Arsenal Bldg., for constructing steel work for fences in the Bronx Zoological Park. Wm. R. Wilcox, Comr.

DRY DOCKS.—Ottawa, Ont.—Resolution is in commons offering subsidies for building dry docks. It is stated that the first docks to be erected under this will be at Collingwood, Ont., and St. Johns, N. B.

CANAL WORK.—Newport, R. I.—Bids are asked until June 3 for cutting off short leg and extending long leg of underground brick gathering canal at Fort Greble, R. I. Capt. Thos. H. Slavens, Q. M.

VESSEL REPAIRS.—New York, N. Y.—Bids are asked by the Police Commissioner, 300 Mulberry St., until June 2 for making repairs and alterations to steam vessel "Patrol," stationed at Pier A, North River.

DREDGE.—Washington, D. C.—Contract for building and equipping a steel hull, stern wheel, combined dredge and snag boat has been let to the Merrill-Stevens Engineering Co., St. Augustine, Fla., for $78,254.

MINING WORK.—Knoxville, Tenn.—Frank J. Smith, Mascot, Tenn., is engineer in charge of the work which the Holston Zinc Co. proposes to do to their Fleet Creek zinc property. A 200-ton mill is to be erected.

DITCH.—Saratoga, Wyo.—We are informed that the Encampment Platte Valley Ditch Co., L. G. Davis, Pres., will itself do the work of constructing its proposed nine-mile ditch, the estimated cost of which is $13,200.

SPIRAL RIVETED PIPE, ETC.—Richmond, Va.—Bids are asked until June 2 for 2,000 ft. 12-in. asphalted spiral riveted pipe; also 30 rubber connections for same. W. E. Cutshaw, Cy. Engr. (See advertising columns.)

CEMENT AND SEWER BRICK.—Los Angeles, Cal.—Bids are asked until May 25 for furnishing cement and sewer brick for two years, commencing Aug. 1, for use in constructing sewers in this city. H. J. Lelande, Cy. Clk.

PIER EXTENSIONS.—New York, N. Y.—Gen. Gillespie, Chief of Engineers, will report to the Secretary of War on the projected improvements in the Chelsea section, which involve the erection of ten long piers in the North River.

TUNNEL.—Denver, Colo.—It is stated that the Trans-Continental Transportation & Mining Co. has been incorporated with $3,000,000 capital, to cut the Vidler tunnel under Argentine pass, near Georgetown, for railway purposes.

PARAPET WALL AND PIERS.—New York, N. Y.—Bids are asked by the Park Board, Arsenal Bldg., until May 28 for constructing parapet wall and piers along 5th Ave. in front of Metropolitan Museum of Art. Wm. R. Wilcox, Comr.

MINING WORK.—Grand Encampment, Wyo.—The Rambler Mining & Smelting Co. is to increase the capacity of its copper matte smelter from 50 to 150 tons daily and will add a refining plant for copper, gold, silver and platinum.

SHIP BUILDING.—Washington, D. C.—The U. S. Government has revoked the contract with the Trigg Shipbuilding Co., Richmond, Va., for building the cruiser "Galveston" and the boat will be towed to the Norfolk Navy Yard for completion.

MINING MILLS.—Salt Lake City, Utah.—It is reported that the Latham Mine, in the Spruce Mountain district, Nevada, and the Four Metals Mine, at Deep Creek, are to be equipped with milling plants this year. R. P. Hills is interested in both mines.

LOWERING TUNNELS, PARK WORK.—Chicago, Ill.—City is asking legislative leave to issue $5,000,000 of bonds for lowering tunnels and $1,000,000 of bonds to fill in lake front from Fullerton Ave., to Cornelia St., for the enlargement of Lincoln Park.

PORT FACILITIES.—Austin, Tex.—It is stated that the Rock Island R. R. proposes to establish port facilities at Galveston and Sabin Pass. Large grain elevators will be erected and other improvements made, involving an expenditure of several million of dollars.

ZINC PLANT.—Salt Lake City, Utah.—Reports from here state that the zinc plant of the Utah Metals Co., at Park City, was damaged to the extent of $125,000 by a recent fire. This was said to be the only plant in the West for the treatment of zinc-bearing ores.

CEMENT PLANTS.—Detroit, Mich.—We are informed that Field, Hinchman & Smith, Engrs. and Archs., 708 Washington Arcade, Detroit, want the cost of cement plants, especially those using mud and clay and manufacturing by the wet process with rotary kilns.

DRAINAGE WORK.—Beardstown, Ill.—T. K. Conditt writes us that bids will be received about July 10 for construction of levee and ditch, southwest of this place, for the Menodosia levee and drainage districts. The estimated cost of the work is $32,000 and Fred. J. Freunch is official in charge.

STATE DOCKS.—Boston, Mass.—The work which the State is now doing on the east side of Boston Harbor is stated to be the nucleus for the construction of State docks more than a mile long. On the work $100,000 has already been expended and the State has arranged to expend $900,000 more within three years.

GUNBOATS.—Washington, D. C.—The Gas Engine & Power Co., Morris Heights, N. Y., was low bidder for constructing the new gunboats "Dubuque" and "Paducah." The bid was $295,000 if department designs are followed complete, and $286,000 if the department's designs, except boilers, are followed. The time for completion is 18 months.

LOCK GATES.—Pittsburg, Pa.—We are informed that the following bids were received May 13, by Capt. Wm. L. Sibert, U. S. Engrs., for erecting two steel lock gates at Merrill, Pa.: advertised in Engineering News: Penn Bridge Co., Pittsburg, Pa., $36,000, one year's time; The Evansville Contract Co., Parkersburg, W. Va., $49,240, $41,160 (rivet holes punched), $43,684 (rivet holes punched and reamed), 180 days.

TRAVELING CRANE, MOTOR GENERATOR SET.—Washington, D. C.—Bids for a 12-ton electric crane for the U. S. Mint at Denver, Colo., were received May 5 from Alfred Box & Co., Front St., Philadelphia, $3,565 (awarded contract), and from North Penn Iron Co., Philadelphia, $4,927. For a 45-KW. motor generator set the following bids were received: Westinghouse Electric & Manufacturing Co., Pittsburg, Pa., $1,550; General Electric Co., Philadelphia, Pa., $2,225; Sprague Electric Co., New York, N. Y., $2,750.

U. S. POSSESSIONS AND CUBA.

RAILWAY.—Alaska.—Alfred B. Iles is reported to have let a contract to J. S. Antonelle for grading the first five miles of this road out of Valdez.

MINING PLANT.—Alaska.—The Pine Creek Power Co., of Atlin, will spend $50,000 in a new plant and equipment. L. H. Griffith is Gen. Mgr.

WATER-WORKS.—Cuba.—A bill has been introduced by Gen. Lorinaz del Castillo, carrying an appropriation of $200,000, for the building of an aqueduct and a waterworks at Puerto Principe.

WHARF.—Wailuku, H. I.—Citizens are petitioning for the passage of the bill carrying an appropriation for a public wharf and warehouse.—Honolulu.—Henry L. Cooper, Supt. Pub. Wks., is working for an appropriation for building a storage reservoir at the head of the Nunana Valley, with 340,000,000 gallons capacity.

RAILWAY.—Alaska.—The Western Alaska Construction Co. has secured the contract for constructing complete and equipping the first 50 miles of the Council City &

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

Solomon River R. R., which is projected to run from the mouth of the Solomon River, near Nome, inland for about 500 miles. F. M. Hicks, of the Hicks Locomotive & Car Works, Chicago, Ill., is authority for the above.

WATER PIPE.—Arecibo, P. R.—Mayor Bernardo Hincy has awarded a contract to James B. Clow & Sons, Chicago, for supplying 22,000 ft. of from 2 to 8-in. cast-iron water pipe, with valves and hydrants.

MEXICO.

ELECTRIC LIGHT.—Cordoba.—Council arranging with a private company for electric light plant.

BRICK PLANT.—Victoria.—Company organized here; $50,000 cap.; to establish brick manufacturing plant.

WATER SUPPLY.—Durango.—J. F. Fitzgerald, Durango, is considering a proposition to supply water to this city.

SMELTER.—Saltillo.—Duncan McKay and Eduardo Laroche, with capital of $500,000, will establish a smelter in this city. Concession granted by government.

ELECTRIC LIGHT PLANT.—Tehuacan.—Inocente Sanchez and Ramon de la Fuente, of Tehuacan, are arranging for the construction of an electric light plant.

FACTORY.—Mexico City.—The paint factory projected by John Bannon, of New York, will have a boiler capacity of 5,000 gallons. Plant will be imported from the U. S.

FLOUR MILL.—Nadadores, State of Coahuila.—Fred. Miller will erect a 50-bbl. flour mill; has obtained concession from government for the use of water for motive power.

BUILDING.—City of Mexico.—Architect Benard has submitted plans for new legislative building to the secretary of communications and as soon as approved contracts will be let.

HYDRAULIC PLANT.—Queretaro.—An extensive hydraulic plant is to be constructed on the Tequisquiapam River near this city by the Compañia Explotadora del Tequisquiapam.

RAILWAY.—Villaldama.—Branch line of Mexican National R. R. reported to be built from here to Cerralvo mining district. J. M. Reid, Ch. Engr. of Construction, and A. Clark, Div. Supt., have been investigating.

GRAIN ELEVATOR.—Monterey.—It is announced here that the J. C. Robb Commission Co., of Kingfisher, Okla., will erect a grain elevator, also one at Tampico. Monterey elevator will have a capacity of about 100,000 bushels.

RAILWAY.—Durango.—Rankin Johnson, Ch. Engr. Mexican International R. R., informs us that the line from Durango to Mazatlan will be about 395 kilometers long. Surveys have been finished, but work is not yet started.

RUBBER WORKS.—Durango.—James Wright, Detroit, Mich., is at the head of a syndicate of Americans who propose to establish a factory here for the manufacture of rubber from the Guayule plant. A site is selected.

WATER-WORKS.—Monterey.—It is stated that Joseph David, Cleveland, O., has secured a contract for building a water-works plant and sewerage system for this city, valued at $2,000,000. Mr. David is said to represent a Boston firm.

RAILWAY.—Mexico City.—It is rumored that the Rothschilds, of Paris, have decided to spend $10,000,000 in providing the copper mines owned by them in Lower California with railways, machinery and a powerful electric plant; it is also said they contemplate the construction of railways to their mines in the State of Michoacan.

FOREIGN CONTRACTS—EXPORT NEWS.

WATER SUPPLY.—Jujuy, Argentina.—Water supply system authorized by Minister of Public Works. Will be constructed by city.

ELECTRIC LIGHTING.—Scotland.—The scheme for the electric lighting of Blairgowrie and Rattray is being revived. Committees will be appointed by the councils of each city.

PNEUMATIC TOOLS, ETC.—Spain.—Joaquin Herm, of Barcelona, Spain, writes us that he wants the names and addresses of manufacturers and exporters of pneumatic tools for workshops, etc.

RAILWAY.—Portugal.—Bids will be opened about 90 days from May 1 for constructing meter-gage railways from Vienna to Ponte da Barca, Braga to Monaco, and from Braga to Guimaraes. The Minister of Railways at Lisbon will probably advise.

RAILWAY.—British Honduras.—W. L. Avery, U.S. Consul at Belize, states that a railway in this country without any subsidy or grant of land, other than a right of way, would be a paying investment. A contract was recently drawn up with the Secretary of State and promoters for a road from Belize in a southwesterly direction, but was abandoned by the promoters as only a right of way was obtainable. The American Construction Co., of New York, decided to take up the construction provided a land grant be made, but this proposal was rejected by the government. The line had been surveyed for about 45 miles from Belize and explored 15 miles further. The abundance of mahogany in this country suggests that constructing such a line of road would be profitable if only a right of way granted could be obtained. Mr. Avery advises that applications for charters be addressed direct to the Secretary of State for the Colonies at London, Eng.

SOUTH AFRICA.—Miscellaneous.—Bids are wanted by the municipality of Johannesburg until June 8 for supplying steel grooved rails and fish plates for same, steel vignoles rails and fish plates, points and crossings, tie bars, sole joints, bolts, nuts, rivets, dog-spikes, etc., for the electric tramways in Johannesburg. Address Municipal Council; Mordey & Dawborn, Consult. Engrs., 82 Victoria St., London, S. W., have drawings, specifications, etc.——Water supply system considered by Heilbron, Orange River Colony.——Barberton contemplates electric lighting, drainage and other public works.——Salisbury (Rhodesia) town council will call for bids for electric lighting, water and tramway installations the council having the privilege of taking the works at the expiration of 21 years.——The sewerage scheme planned for Pietermaritzburg will involve a cost of $982,200; population 200,000.——At the sea side resorts of Kalk Bay and Muizenberg, Cape Colony, it is planned to install sewerage systems costing $193,425; septic tank treatment for sewerage.——Port Elizabeth town council will raise $5,000,000 for installing an electric lighting and power supply. For additional water supply $1,500,000 is proposed.——Sanderton, Transvaal, will install a water supply system.——A bill will be presented to the Cape Parliament authorizing the establishment of electric lighting at Sea Point and Green Point, Cape Town.——Water supply systems are contemplated by Sanderton, Transvaal, and Winburg, Orange River Colony, latter having 10,000 population; water-works proposed at Aliwal North, Cape Colony, and a new reservoir at Wepener to cost $7,500.—Openings at Mauritius for sugar and aloe-fiber machinery, from 5 to 25 HP. engines for driving pumps, fiber scrapers, dynamos, etc., beam and horizontal engines, light railway material for tracks, etc., not too costly motor carriages, traction engines.——A water impounding scheme at Uitenhage, Cape Colony, calls for a dam across the Zwartkops River, 100 ft. high, 600 ft. long, and 70 ft. thick at the base. Town Engineer Mallock planned the same, to cost $1,150,000.——The British South Africa Co. will build two extensions of its roads, one from Lobatei to Rustenburg, and the other from Klerksdorp to Fourteen Streams.——The Cape Electric Tramway, Ltd., apply to Parliament to convert into standard gage electric line, the Sea Point-Capetown Railway.

CONTRACT PRICES.

[Where (*) precedes items under Contract Prices the work was advertised in Engineering News.]

PAVING.—Evansville, Ind.—The following lowest bids were received for paving by the board of public works on April 18: Stinchfield & Saunders, curbing, Division, Seventh and Walnut Sts., 45 cts. per lin ft.; J. P. Weikel, brick paving, Division St., $1.45 per sq. yd.; Jacob Eichel, brick paving, Seventh St., $1.42; Second St., $1.47; Walnut St., $1.41; C. P. White, asphalt paving in five streets, $1.80, $1.82, $1.83 and two at $1.84, respectively; Barbour Asphalt Co., in Mulberry St., $1.85.

(*)PAVING.—Glencoe, Ill.—F. A. Windes, Village Engr., informs us that the following bids were received on May 9 for the improvement of Hazel, Hawthorne, South and Greenleaf Aves.:

Bids Received at Glencoe, Ill., May 9, 1903, for Making on Improving Several Avenues

Quantities.		James H. Roche, Chicago.	Dolese Bros. Co., Chicago.	Jas. Cane & Sons, Racine Wis.	J. A. McGarry & Co., Chicago.	Todd & Kerrow Chicago.
Pavement	10,650 sq. yds.	$0.90	$0.93	$0.80	$0.90½	$0.92
Excavation	7,000 cu. yds.	.30	.20	.25	.10	.24
Water pipe lowered	400 lin. ft..	.50	.35	.40	.30	.18
20-in. concrete gutter	500 " "	.50	.50	.50	.35	.54
Sodding	1,800 sq. yds.	.22	.10	.20	.17	.24
Brick crosswalks	140 " "	1.40	1.50	2.00	1.40	2.40
Brick catchbasins	35 each...	40.00	27.50	30.00	27.50	29.00
4-in. drain	1,470 lin. ft..	.20	.13	.15	16½	.24
6-in. "	3,925 " "	.25	.15	.20	.19	.33
8-in. "	3,155 " "	.30	.20	.25	.27	.46
10-in. "	500 " "	.35	.25	.30	.31½	.56
12-in. "	980 " "	.55	.30	.50	.35	.66
Concrete end curbs	28 each...	3.00	4.00	5.00	5.00	4.80
Total		$16,972	$14,884	$14,804	$14,445	$13,3[illegible]

(*)DREDGING.—New York, N.Y.—Bids received April 29 by Maj. W. L. Marshall, U. S. Engrs., for dredging in Buttermilk Channel and in Gowanus Creek, as follows: (1) Buttermilk Channel, (2) Gowanus Creek: Wm. H. Taylor, 24 Emery St., Jersey City, N. J., (1) 26 cts. per cu. yd., (2) 19¾ cts.; W. H. Beard Dredging Co., Bridge St., New York., (1) 36 cts., (2) 22½ cts.; R. G. Packard Co., 130 Pearl St., N. Y., (1) 39 cts., (2) 32 cts.; Morris & Cummings Dredging Co., 24 State St., N. Y., (1) 32½ cts.; Inter. Contracting Co., 95 Broad St., N. Y., (1) 36 cts., (2) 30 cts.

PIPE SEWER.—San Francisco, Cal.—Board of public works has awarded a contract to Felix McHugh for constructing 8-in. salt-glazed vitrified iron stone pipe sewer in J St., at $2.49 per lin. ft.

PAVING.—Macomb, Ill.—The Tri-City Construction Co. has received a contract for paving at the following figures: 4,965 cu. yds. excavation at 24 cts. per cu. yd.; 11,917 sq. yds. paving, $1.06 per sq. yd.; 6,914 lin. ft. new curb, 40 cts.; 250 lin. ft. old curb, 10 cts.

CAST-IRON WATER PIPE.—Chicago, Ill.—The U. S. Cast Iron Pipe & Foundry bid $32.80 per ton for supplying about 330,000 worth of c.-l. water pipe, which was lowest of the bids received April 21.

PAVING.—Topeka, Kan.—The following contracts have been awarded: J. H. Maxwell, grading, at 24¾ cts. per cu. yd.; John Ritchie, rolling, 2 cts. per sq. yd.; curbing, 45 to 53 cts.; H. K. Winans, cross plates, at $4.60 each; M. W. Gilmore, catchbasins, $17 each.

PIPE HYDRANTS, ETC.—Pomeroy, Wash.—The following bids were received April 21 for furnishing pipe, hydrants, gate valves, etc.: (1) Pacific Coast Pipe Co., Spokane, Wash.; (2) Washington Pipe Co., Spokane; (3) National Tube Works, Seattle, Wash., whose bid of 90 cts. is for 10-in. steel pipe:

		1.	2.	3.
10-in. wood pipe	5,000 lin. ft..	$0.50	$0.56	$0.90
8-in. " "	7,000 " "	.39	.43	.66
4-in. " " a lin. ft.		.21	.20	.25
Fittings, a lb.		.04¾	.05	.04½
Hydrants	7 each...	30.50	30.00	30.30
10-in. gate valves		38.00	38.00	35.30
8-in. gate valves		25.00	22.50	24.20

(*)CEMENT SAND AND BROKEN STONE.—Boston, Mass.—Capt. Harry Taylor, U. S. Engrs., received the following bids on April 25, 1903, for furnishing Portland cement, sand and broken stone: (1) cement, (2) sand, (3) broken stone: Barry & Ferguson, Boston, (1) $2.08 per bbl. (in sacks), Saylor's (in bbls.) $2.28; Rockport Granite Co. and Pigeon Hill Granite Co., Rockport, (3) $1.85 per cu. yd.; W. G. Nash, Boston, (1) Invictor at Little Harbor, N. H., $2.60 in bbls. and $2.30 in sacks; at Boston, $2.50 in bbls. and $2.20 in sacks; Waldo Bros., Boston, (1) Atlas at Little Harbor, N. H., $2.41 in bbls. and $2.28 in sacks; at Boston, $2.39 in bbls. and $2.24 in sacks; (2) at Little Harbor, $1.06 per cu. yd.; at Boston, $1.25 per cu. yd. (Ipswich sand 10 cts. per yd. less); Rowe Bros. Co., Richmond, Me., (2) at Little Harbor, 73 cts., at Boston, 70 cts.; James H. Cahill, Boston (2) at Little Harbor, $1.10; at Boston, $1.30.

SIGNS AND SIGN POSTS.—New York, N. Y.—The Borough President received the following bids on April 27, 1903, for furnishing, erecting and maintaining for three years signs and sign posts: (1) bid of F. X. Redell, whose total was $5,457.50 (informal); (2) P. J. Constant, 422 Gates Ave., Brooklyn, total $14,837.50; (3) Caesar Bros., total, $25,626; (4) Jos. N. Early, total, $16,550; (5) U. S. House Co., total, $31,368.50:

		1.	2.	3.	4.	5.
Type "A"	1,600 each.	$1.25	$1.25	$3.71	$1.50	$5.00
Type "B"	2,450 "	1.20	1.25	3.71	1.50	4.00
Type "C"	150 "	1.50	1.50	4.27	1.50	6.00
Type "D"	450 "	.65	1.00	.48	1.00	.93
Sign posts	1,400 "	...	6.50	6.96	7.00	8.75

MACADAMIZING.—Oakland, Cal.—The Oakland Paving Co. was awarded contract April 30 for macadamizing San Pablo Ave., at following prices: macadamizing, 7¼ cts. per sq. ft.; grading, 4 cts. per sq. ft.; c.-l. culverts, $4.50 per lin. ft.

(*)DREDGING.—Boston, Mass.—Bids were received by Capt. Harry Taylor, U. S. Engrs., on May 1, 1903, as follows for dredging in Lake Champlain, Vt., and the harbor of Plattsburg, N. Y.: (1) Lake Champlain, 62,500 cu. yds., (2) Plattsburg Harbor, 4,250 cu. yds.: Daly & Hannan Dredging Co., Ogdensburg, N. Y., (1) 28 cts. a cu. yd., (2) 28 cts. a cu. yd.; P. W. Myers & Son, Albany, (1) 26¼ cts., (2) 27 cts.; Emory R. Seward, 102 Mary Place, New York, (1) 22½ cts., and (2) 30 cts.

(*)DREDGING.—New York, N. Y.—Following bids were received by Col. Amos Stickney, U. S. Engrs., for dredging in the Hudson River and Saugerties Harbor: (1) Hudson River, (2) Saugerties Harbor: Morris & Cummings, 17 State St., New York, (1) 24.9 cts. a cu. yd. scow measurement; Newburg Dredging Co., Newburg, (1) 28 cts., (2) 22½ cts.

(*)STONE.—Portland, Ore.—The bids of the Northwest Construction Co., Astoria, Ore., on April 30, for supplying 475,000 tons of stone for use in connection with jetty construction in the Columbia River at 91 cts. per ton, have been recommended for acceptance by Maj. W. C. Langfitt, U. S. Engrs. The bidders and figures were: R. M. Henningsen & Co., Seattle, Wash., $1.02; Columbia Contract Co., Portland, $1.25, and Robt. Wakefield & Co., Portland, $1.23.

(*)STREET CLEANING.—Washington, D.C.—The following bids were received by Warner Stutler, Supt. Street Cleaning Dept., on May 1, 1903, for street cleaning for one, two and three years per 1,000 sq. yds.: Washington Sanitary Street Cleaning & Flushing Co., St. Louis, Mo., for flushing improved streets per 1,000 sq. yds., 1 year, $0.25, 2 years $0.225, 3 years $0.205; Lilly & Robinson, 2501 14th St., N.W., Washington, machine sweeping, $0.20, $0.205 and $0.205, respectively; R. V. Rusk, 472 Louisiana Ave., N.W., Washington, machine and flushing, 3 years only, $0.16 13-16; R. V. Rusk, cleaning public alleys, $0.37, $0.36 and $0.35, respectively; R. V. Rusk, for cleaning unimproved streets and supplying 32 laborers, 10 horses and carts with drivers, per year, $66, $65 and $64.

WATER-WORKS MATERIALS.—Minneapolis, Minn.—The following bids were received on April 24, 1903, for materials for water-works construction for the season of 1903. Andrew Rinker, Cy. Engr.: 97 tons pig lead, R. W. Shot & Lead Works, St. Paul, $4.66 per 100 lbs.; J. S. Hill & Co., city, $94 per ton; Gilmore Rolling Co., city, $99.95 per ton; 149 hydrants, R. D. Wood & Co., Philadelphia, Pa., with jackets, $37 each; without jackets, $29; Cavuta Wheel & Foundry Co., Sayre, Pa., with jacket $36, without $31; 200 frost jackets, Cavuta Wheel & Foundry Co., $7.80 each; 180 tons special castings, Dimmick Pipe Co., Birmingham, Ala., 2¾ cts. per lb. f. o. b.; N. W. Foundry Co., city, $50 per ton f. o. b.; $59 per ton delivered, 8,124 lin. ft. 20-in. steel riveted pipe Carroll-Porter Boiler & Tank Co., Pittsburg, Pa., $4.90 per ft., f. o. b., $6.85 per ft. laid in trench as prepared by city; William Bros. Mfr. Co., city, $76 per ton in trench; Minneapolis Steel & Machine Co., city, $5.95 per ft., f. o. b.; (1) Dimmick Pipe Co., Birmingham, (2) U. S. Cast-Iron Pipe Co., Chicago, Ill., (3) Kennedy Valve Mfg. Co., New York; (4) Michigan Brass & Iron Works, Detroit, Mich.; (5) Rensselaer Mfg. Co., Troy, N. Y.; (5) Jas. B. Clow & Sons, Chicago, Ill.; (6) Ludlow Valve Co., Chicago; the bids for cast-iron pipe and valves, are as follows:

			1.	2.
6-in. cast-iron pipe	51,000 lin. ft..		$33.40	$33.95
8-in. " "	5,700 " "		33.40	33.10
12-in. " "	3,276 " "		33.40	29.00
16-in. " "	2,802 " "		29.00	29.00
24-in. " "	5,388 " "		29.00	29.00
24-in. " "	12,732 " "		29.00	29.00
30-in. " "	8,124 " "		31.90	29.00

		3.	4.	5.	6.	7.
6-in. valves	139 each.	$10.50	$14.75	$19.00	$10.50	$10.75
8-in. "	14 "	16.00	18.98	19.40	16.00	19.50
10-in. "	2 "	24.00	30.93	28.50	28.50	27.00
12-in. "	18 "	33.50	35.50	34.00	34.50	35.00
16-in. "	4 "	76.00	80.01	75.00	77.00	75.00
24-in. "	11 "	195.00	210.65	220.00	220.00	222.00
30-in. "	4 "	310.00	368.15	415.00	425.00	418.00

(*)DREDGING.—New London, Conn.—Maj. Chas. F. Powell, U. S. Engrs., received the following bids on May 15, 1903, for dredging in New London Harbor: R. G. Packard & Co., 15 cts. a cu. yd.; Emory P. Seward, 19¾ cts.; The International Construction Co., 13¾ cts.; Morris & Cumings Dredging Co., 9.4 cts. (all of New York); Virginia Dredging Co., Richmond, Va., 10¼ cts.; John P. Randerson, Albany, N. Y., 10.9 cts.

(*)MACADAMIZING ROAD.—Morristown, N. J.—The lowest bid received for macadamizing about three-fourths of a mile of the Newark and Pompton turnpike was submitted by Colfax & Steele, Pompton, N. J., at the following figures: earth excavation, 25 cts. per cu. yd.; rock excavation, $1.50; 8-in. macadam, 43 cts. per sq. yd.; 16-in. c.-l. drain pipe $2.25 per lin. ft.; stone drain, 25 cts. per lin. ft.; total, $3,495.

(*)WATER PIPE.—Atlantic City, N. J.—Kenneth Allen, Engr. and Supt. Water-Works Dept., received the following bids May 5 for supplying pipe in connection with a 3,000,000 gallon pumping plant (for bids on pumping plant see Water-Works), in connection with air-lift plant: Currie Co., Atlantic City, 250 lin. ft. 6-in. vit. pipe 70 cts. per lin ft.; 200 ft. 8-in., 65 cts.; 150 ft. 10-in., $1.15; 150 ft. 12-in., $1.55; 600 ft. 15-in., $2.15; 175 ft. 18-in., $2.85; 1¼ cu. yds. rubble, $12; 250 cu. yds. embankment, 50 cts.; total $2,642 (awarded contract). The Currie Co. (1) bid as follows on pipe, etc., for impulse wheel plant; W. P. Dallet, 49 North Seventh St., Philadelphia (2), figures are for pipe, etc., for electric motor plant, 600 lin. ft. 6-in. iron suction pipe, (1) $1.60 per lin. ft., (2) $2.75; 375 ft. 8-in., (1) $2.20, (2) $3; 150 ft. 10-in., (1) $3.25, (2) $3.15; 150 ft. 12-in., (1) $4, (2) $2.98; 300 ft. 14-in., (1) $5.20, (2) $3.08; 150 ft. 16-in., (1) $8, (2) $3.50; 175 ft. 18-in., (1) $9.45, (2) $4.50; two 12-in. gate valves, (1) $40 each, (2) $45; one 8-in., (1) $35, (2) $30; 18 × 12 × 12-in. breeches, (1) $72, (2) $35; 12 well connections and valves, (1) $33, (2) $60; total, (1) $7,869, (2) $13,706.

STREET IMPROVEMENT.—Jeffersonville, Ky.—The council received figures from two bidders on May 8 for the reconstruction of Maple St. for 5,589 ft., as follows: (1) L. F. Perdue, Terre Haute; (2) E. M. Lindley, Jeffer-

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

sonville: granitoid sidewalk, (1) 16½ cts. per lin ft.; (2) 17 cts.; curbing, (1) 60 cts.; (2) 58 cts.; gutter, (1) 34 cts.; (2) 36 cts.; resetting old gutters, (1) 10 cts.; (2) 21 cts.; alleyways, (1) 18 cts.; (2) 19 cts.; c.-i. gutter, (1) 50 cts.; (2) 56 cts.; c.-i. pipe, (1) 50 cts.; (2) 46 cts.

PAVING.—Denver, Colo.—The Colorado Paving Co. was the only bidder for paving 14th St., from Lawrence St. to Colfax Ave., on May 6, at $1.49 per sq. yd.

SEWER.—Davenport, Ia.—Bids were received as follows on May 6 for sewers: (1) Ninth St., (2) Leonard St.: Patrick Connelly, (1) $1.02 per lin. ft., (2) $1.04; Peoples Construction Co., (1) $1.27, (2) $1.25; Haeppner & Neiman, (1) 96 cts., (2) 94 cts.

BRICK PAVING.—Quincy, Ill.—The board of local improvements received bids as follows on May 8 for paving: (1) using Quincy brick; (2) Springfield; (3) Galesburg; (4) new curbing; (5) resetting old curb: Peter Simons, (1) $1.14½ per sq. yd.; (2) $1.29; (3) $1.30; (4) 38 cts. per lin. ft.; (5) 14 cts.; Fred. Kordsiemon, (1) $1.07¾; (2) $1.17½; (4) 46 cts.; Ebert & Shanahan, (1) $1.17⅞; (2) $1.35½; (3) $1.34½; (4) 40 cts.; (5) 7 cts.; Henry Reese, (1) $1.06; (2) $1.14; (3) $1.14; (4) 38 cts.; (5) 8 cts.

SEWERS.—Fond du Lac, Wis.—E. B. Parsons, Cy. Engr., writes that D. H. Cole received the contract for 2,600 lin. ft. of 15-in. pipe sewer, at $1.21 per ft.

PAVING.—San Francisco, Cal.—The City Improvement Co. received the contract for paving O'Farrel St. with basalt blocks at 35¾ cts. per sq. ft.——Flinn & Tracy received the contract for paving Carl St. with bituminous rock at $1.25 per sq. ft.

LEVEE WORK.—Shreveport, La.—The board of levee commissioners have awarded the following contracts: Cavite levee, comprising 110,000 cu. yds. of earth excavation, to M. Hunt, at 17.4 cts. per cu. yd.; Wild Lucia levee, 55,000 cu. yds., Jordan Bros., 15.4 cts.; Cross Keys levee, 95,000 cu. yds., M. L. Linan, 17.5 cts.

PAVING.—Detroit, Mich.—For paving various streets the following bids were submitted May 12: Julius Porath, brick, $1.95 per sq. yd.; H. Meridian, brick, $1.94; Currie & Conn, cedar, $1.57 and $1.71.

(*)RESURFACING ROAD.—Paulsboro, N. J.—Wm. M. Carter, County Engr., Woodbury, informs us that the following bids were received May 16 for resurfacing part of Crown Point Stone Road: (1) resurfacing 17,800 sq. yds. of macadam road; (2) 200 cu. yds. gravel shouldering; J. R. Shanley, 14 S. Broad St., Philadelphia, Pa., (1) 50 cts.; (2) 25 cts.; E. F. Fonder, 15 N. Juniper St., Philadelphia, (1) 94 cts.; (2) 28 cts.

STREET ROAD WORK.—New York, N. Y.—The following lowest bids were received April 27 for street improvements: in Hoe St., from West Farms road and Boston road: A. G. Vermilliyea, 463 West 144th St., 21,000 cu. yds. earth excavation, 50 cts. per cu. yd.; 32,000 cu. yds. rock excavation, $1.50; 17,600 cu. yds. fill, 1 ct. per cu. yd.; 8,800 lin. ft. old curb, 65 cts. per lin. ft.; 36,000 sq. ft. new flag, 23 cts.; 900 sq. ft. bridgestone, 55 cts.; 100 cu. yds. dry rubble masonry, $1; total, $73,271; Improvements in Ryer Ave., from Burnside Ave. to East 183d St., P. J. Duffy, Fourth Ave. and 138th St., 8,970 cu. yds earth excavation, 50 cts.; 11,140 yds. rock excavtion, $1.55; 4,610 cu. yds. fill, 1 ct.; 4,670 lin. ft. old curb, 22 cts.; 18,330 sq. ft. new flag, 50 cts.; 1,360 sq. ft. bridgestone, $1; 165 cu. yds. dry rubble, 50 cts.; 500 lin. ft. 12-in. vit. pipe, $5; total, $29,969.

(*)CAST-IRON PIPE.—Holyoke, Mass.—James L. Tighe, Engr., informs us that the following bids were submitted May 11 for furnishing 600 tons of 20-in. c.-i. pipe and special castings: (1) pipe; (2) special castings: R. D. Wood & Co., (1) $32.90 per ton, (2) $2.80 per 100 lbs.; Warren Foundry & Machine Co., (1) $31.70, (2) $2.70; M. J. Drummond & Co., (1) $31.70, (2) $2.87½; U. S. Cast-Iron Pipe & Foundry Co., (1) $32.90, (2) $3; Reading Foundry Co., (1) $38, (2) $2.75; special bid, (1) $28.50, (2) $2.75.

BRICK PAVING.—Marion, Ind.—Bids were received as follows on May 5 for paving of Branson St.: W. R. Himes, Frankfort, Athens or Clinton block, per lin. ft., 8-in. base, $8.13; 6-in., $8.73; Wessel, 8-in., $8.17; 6-in., $8.77; Terre Haute, 8-in., $8.20; 6-in., $8.80; Nelsonville, 8-in., $8.37; 6-in., $8.97; Metropolitan or Logan, 8-in., $8.43; 6-in., $9.03; Lora C. Lillard, Metropolitan or Canton, $7.45; Posten, $7.37; Logan, $7.45; Athens, $7.45; Clinton, $7.41; Nelsonville, $7.54; Brazil, $7.41; F. M. Benner, Indiana, $8.60; Met., $8.55; Posten or Athens, $8.26; Nelsonville, $8.50; Neal Paving Co., Nelsonville, 8-in., $6.81; Wassel, 6-in., $6.65; Athens, 8-in., $6.66; Met., 8-in., $6.81; Terre Haute, $6.66; Philip Hipskin & Sons., Ind., 8-in., $8.38; Clinton, redressed, $8.25; Met., 8-in., $8.26; Nelsonville, 6-in., $8.46; Athens, 6-in. $8.38; Wessel, 8-in., $8.28; Logan, 6-in., $8.52; S. M. Grady, Met., 8-in., $7.85; Ind., 8-in., $7.65; Logan, $7.70; W. H. Hatch & Sons, Wassel or Trimble, $7.25; Ind., $7.41; Met. or Logan, $7.64; Athens, $7.40; Posten, $7.32; Nelsonville, $7.66; Terre Haute, $7.49; Fred. Hoffman, Crawfordsville, Ind., $6.76; Clinton, $6.74; Terre Haute, $6.71; Wassel, $6.74; Logan, $6.83; Met., $6.80; Posten, $6.72. Bids were also submitted on 10th St. improvements.

INDUSTRIAL NOTES.

THE UNION STEAM PUMP CO., Battle Creek, Mich., is erecting a steel frame foundry building, 90 x 180 ft.

THE PRESSED STEEL CAR CO. has removed its offices from the Empire Bldg. to the Blair & Co. Building, 24 Broad St., New York.

THE PNEUMATIC ENGINEERING CO., 128 Broadway, New York, recently installed a plant in the South, where the air-lift system pumps 9,000,000 gallons of water per day from four 10-in. wells.

THE OTIS ELEVATOR CO., New York, has received orders from the Duke of Marlborough for two electric elevators with push-button control, for his city home, Blandford House, Curzon St., London.

THE INTERLOCKING CHANNEL BAR CO., Tribune Building, Chicago, is putting down its steel sheeting around the site for the new Railway Exchange Building, at Jackson and Michigan Aves., Chicago. This sheeting consists of 15-in. channels, with two Z-bars riveted to each alternate channel. It has been used for mine shafts, for the cofferdam of the new power house of the Union Electric Co. at St. Louis, and for the foundation sheeting of the Union Traction Building at Cincinnati.

THE LOOMIS-PETTIBONE GAS MACHINERY CO., 52 William St., New York city, with $2,000,000 capital, is a new company organized to succeed the Loomis-Pettibone Co. A large plant is to be built for the manufacture of gas engines in large units, in addition to the Loomis-Pettibone gas apparatus. Until this plant is completed the Crossley gas engines will be used, the company having the American agency for these English engines. Gas engine plants installed include three of 1,000 HP. each for the Winchester Repeating Arms Co., New Haven, Conn.; the Detroit Copper Mining Co., Morenci, Ariz.; and the Moctezuma Copper Co., Nacosari, Mex. Recent contracts include plans of 1,200 and 2,000 HP. for Mexico. The officers of the company are as follows: Pres., Benj. Guggenheim; Burdett Loomis, Sr., Cons. Engr.; Hawley Pettibone, Ch. Engr.; L. P. Feustman, Secy.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3½ x 6 ins., 6 x 9 ins., and 9 x 12 ins.)

PAINT.—The California Graphite Co., 593 Mission St., San Francisco, Cal. Paper; 3½ x 6 ins.; pp. 4.

Particulars and prices are given of graphite, asphalt and cold-water paints for various purposes.

ASPHALT ROLLERS.—Julian Scholl & Co., 126 Liberty St., New York city; 6 x 9 ins.; pp. 20; illustrated.

Rollers in all sizes, from 2½ up to 12 tons, are listed and illustrated, and the features of the design are described.

OIL BURNERS.—C. A. Hammel, 120 West 5th St., Los Angeles, Cal. Sheet; 8½ x 11 ins.

This circular gives the conditions and results of a test with Hammel burners and firebox applied to a Babcock & Wilcox boiler.

GASOLINE AIR COMPRESSORS.—General Compressed Air Co., 3933 Olive St., St. Louis Mo. Paper; 8½ x 11 ins.; pp. 4; illustrated.

These are direct-acting machines, with tandem cylinders, the power and compressing cylinders being on opposite sides of the crank shaft.

WOOD PRESERVING.—C. A. Manufacturing Co., Austin, Tex. Paper; two pamphlets; 3½ x 6 ins.; pp. 16 each.

The first pamphlet describes the use of the C. A. preservative, which is manufactured in Germany. The other is a reprint of a paper on "Wood Preserving by Painting of Immersing in Tar Oils," by Mr. E. P. Schoch, of the University of Texas. Numerous testimonials are given in the pamphlets and in separate leaflets.

ROAD MACHINERY.—Acme Road Machine Co., Frankfort, N. Y.; 6 x 9 ins.; pp. 87; illustrated.

The Acme stone crusher is shown in section and in elevation, together with various details of the mechanism; and some exceedingly interesting photographs of large portable bins on wheels are given, the largest being a 50-ton bin. Acme road machines, dump wagons, carts, cars, plows, rollers, sprinklers, etc., are illustrated and described.

STEAM PUMPS.—Union Steam Pump Co., Battle Creek, Mich. Paper; 7 x 7½ ins.; pp. 80; illustrated.

This is an illustrated catalogue of the Burnham pumps, including direct-acting, low and high-duty, double plunger, hydraulic pressure, deep well and other type of pumps. Air compressors, air and circulating pumps, the Burnham condenser, and other specialties are also shown. Tables of dimensions are given, and there are instructions for setting and operating steam pumps.

CONCRETE OR CONCRETE-STEEL ARCH BRIDGE.

Time for Receiving Proposals Postponed to June 5, 1903.

OFFICE OF BOARD OF PUBLIC WORKS,
GRAND RAPIDS, MICH., APRIL 17, 1903.

Sealed proposals will be received at the office of the Board until Friday, May 15, 1903, at 1:30 p.m., for furnishing all materials, and executing all work necessary in the construction of a concrete, or concrete-steel arch bridge across Grand River at Bridge St., in the City of Grand Rapids, Mich., according to the plans and specifications on file at the Office of the City Engineer.

The bridge consists of five arches, is 448 ft. long between abutments, and 66 ft. wide between faces of cornice.

The Board reserves the right to reject any or all bids.

Each bidder shall deposit with his proposal a certified check or certificate of deposit payable to the order of the President of the Board of Public Works in the sum of 5% of his proposal, to be forfeited to the City of Grand Rapids as liquidated damages in case he shall fail to enter into contract in accordance with his proposal, should his proposal be accepted by the Board of Public Works.

Plans, notice to contractors, form of proposal, specifications, contract and bonds may be secured of the City Engineer. All proposals must be made upon the blank form of proposal accompanying the above.

Surety company bond will be required.

JOS. EMMER, President.
L. W. ANDERSON, City Engineer.
Attest: JNO. C. BROWN, Clerk. 21-1t

WATER PIPE AND SPECIALS, VALVES AND HYDRANTS.

Office Board of Public Works,
Grand Rapids, Mich., May 16, 1903.

Sealed proposals will be received at the office of the Board until May 27, 1903, at 1:30 p. m., for about 1,300 tons of cast-iron Water Pipe and Specials, in sizes from 6 to 24 inches; 96 valves in sizes from 6 to 16 inches and 76 hydrants, according to the specifications on file at the office of the Board.

The Board reserves the right to reject any or all bids.

Each bidder shall deposit with his proposal a certified check or certificate of deposit, payable to the order of James Keegan, President, in the sum of 5% of his proposal, but not less than $50, to be forfeited to the City of Grand Rapids as liquidated damages in case he shall fail to enter into contract in accordance with his proposal, should his proposal be accepted by the Board of Public Works.

All proposals must be made upon blanks that will be furnished upon application at the office of the Board.

By order of the Board.

JAMES KEEGAN, President.
Attest: JOHN C. BROWN, Clerk. 21-1t

ELECTRIC LIGHT AND POWER PLANT.

Comptroller's Office,
City of New Orleans,
New Orleans, La., May 18, 1903.

Pursuant to Ordinance No. 1717, N. C. S. sealed proposals will be received at this office until the hour of 2:30 p. m., Monday, June 8, 1903, for the construction of an Electric Lighting and Power System for the City of New Orleans, in accordance with plans and specifications on file in the office of the City Engineer. Deposit $10,000 with the City Treasurer, and his receipt enclosed with bid. Bond $100,000.

Hon. W. J. Hardee, City Engineer, will furnish bidders with a blank form of proposal; no proposal will be considered unless submitted on such form.

The City reserves the right to repect any and all bids.

V. TUJAGUE,
21-2t Comptroller.

3,500,000-GALLON RESERVOIR.

Westchester County, N. Y.

Proposals will be received by The American Pipe Manufacturing Co., Fidelity Building Philadelphia, up to May 28th, 1903, for the construction of a three and one-half million gallon Distributing Reservoir, located on Metz Farm, Platt Ave., one mile west of Scarsdale, Westchester county, New York. Specifications and plans may be had by application to this office if satisfactory reference is furnished.

THE AMERICAN PIPE MFG. CO.,
21-1t J. W. LEDOUX, Chief Engineer

OFFICE WASHINGTON AQUEDUCT, 2728 Pennsylvania Ave., Washington, D. C., April 22, 1903.—Sealed proposals for Venturi meters sluice gates and gate valves, special castings pumping engines, boilers, stokers and economizers, will be received here until 12 m., May 22 1903, and then publicly opened. Information on application. A. M. MILLER, Lieut.-Col. Engrs. 17-2t 20-2t

PUMPING PLANT AND IMPROVEMENT TO WATER SUPPLY.

Water Commissioners Office,
Schenectady, N. Y., May 12, 1903.

Sealed proposals will be received up to twelve (12) o'clock noon of Monday, June 8, 1903, for furnishing and erecting one Pumping Engine and two Tubular Boilers at the Rotterdam Pumping Station.

Also for erecting an Engine Room, constructing a Collecting Gallery, erecting a Stand-pipe, and foundation for same, and laying a thirty-six (36) inch Cast-Iron or Steel Riveted Force Main.

Forms of proposals showing in detail the manner and conditions under which tenders for the above-mentioned work will be received together with specifications, drawings and estimate may be obtained at the Water Commissioners' office, No. 447 Franklin St.

Hon. H. S. VAN VOAST,
CHARLES E. LUCKHURST,
ALONZO PETERS,
JOHN J. MOFFETT,
HERMAN URY,
21-1 Water Commissioners.

WATER-WORKS AND ELECTRIC LIGHT BONDS.

Clayton, Ala., May 14, 1903.

The Town of Clayton will receive bids until Saturday, June 13, 1903, for the sale of Twenty Thousand Dollars of Municipal Electric Light and Water-Works Bonds. A certified check of Five Hundred Dollars must accompany each bid. The town reserves the right to reject any and all bids.

J. S. WILLIAMS, Mayor.
J. J. WINN, JR., City Clerk. 21-4t

ELECTRIC LIGHT PLANT.

NOTICE OF BIDS FOR PLANS AND SPECIFICATIONS FOR AN ELECTRIC LIGHT PLANT FOR THE CITY OF SAN DIEGO, CAL.

San Diego, Cal.

In pursuance of Ordinance No. 1313 of the Ordinances of the City of San Diego, passed and approved on the 17th day of March, 1903, notice is hereby given that the Common Council of the City of San Diego, on the 1st day of June, 1903, will receive sealed proposals or bids for furnishing to the City of San Diego plans and specifications for an Electric Light Plant. Said bids shall be for the furnishing of plans and specifications for an electric light plant of sufficient capacity to supply the said City of San Diego, and the inhabitants thereof, with electric lights, including lighting of the streets and public places in said City with electric lights; that said plant shall be of such power and capacity as will furnish from 200 to 500 arc lights of two (2,000) thousand candle-power each, and the furnishing of sufficient light to the inhabitants of said city.

[Seal.] GEO. D. GOLDMAN,
18-4t City Clerk of said City.

U. S. ENGINEER OFFICE, Army Building, New York, May 11, 1903.—Sealed proposals for building a Pile Dock at Sandy Hook, New Jersey, will be received here until 12 m., June 10, 1903, and then publicly opened. Information on application. W. L. MARSHALL, Major, Engrs. 20-4t

U. S. ENGINEER OFFICE, Grand Rapids, Mich., May 18, 1903.—Sealed proposals for Pier Construction, at Saugatuck, Mich., will be received here until 3 p.m., June 17, 1903, and then publicly opened. Information furnished on application. M. B. ADAMS, Lieut.-Col., Engrs. 21-4t

U. S. ENGINEER OFFICE, 25 Pemberton Square, Boston, Mass., April 23, 1903.—Sealed proposals for Rock Excavation in Boston Harbor, Mass., will be received here until noon, May 26, 1903, and then publicly opened. Information furnished on application. W. S. STANTON, Lieut.-Col., Engrs. 17-3t 21-1t

Proposals in Engineering News **they cover the whole engineering field**—because it is the greatest Contractors' Paper.

	May 7.			May 14.		
	In.	No. of Advts.		In.	No. of Advts.	
Bridges,	13	—	4	13	—	2
Buildings	11	—	7	—	—	—
Cement, Sand, etc.	2	—	2	—	—	—
Dams and Locks,	1	—	1	2	—	2
Dredging and River Work,	13	—	15	16	—	15
Electric Light and Power,	3	—	1	8	—	3
Garbage Disposal,	1	—	1	—	—	—
Paving, Road work	22	—	8	17	—	8
Railway, Cars, etc.	1½	—	1	4	—	3
Sewers,	10	—	4	20	—	8
Tunnels,	2	—	1	—	—	—
Water works and Supplies,	15	—	4	23	—	7

Advertise all Municipal, County and large private work in ENGINEERING NEWS.

For other For Sale Advertisements see p. and pages 291, 292, 293 of Supplement.

GRANITE EDGESTONES AND GRANITE PAVING BLOCKS.

City of Haverhill, Mass.

The Committee on Streets, Sidewalks and Bridges will until 12 o'clock noon of June 1st, 1903, receive sealed proposals for furnishing to the City of Haverhill, two thousand five hundred (2,500) feet, more or less, of Granite Edgestones, and forty thousand (40,000), more or less, Granite Paving Blocks, in accordance with the following specifications, viz.:

EDGESTONES.

All edgestones are to be of good quality granite, and are to be cut in lengths of not less than five (5) feet, to average at least seven (7) feet, to be free from bunches and depressions, and to have approximately horizontal beds of at least seven (7) inches in width; the ends to a depth of at least ten (10) inches, to be squared with the top, and so cut as to be set with joints of not more than three-eighths (⅜) of an inch without mortar; the edgestones to be out of wind. The hammered surfaces are to be full to the line. The edgestones are to be seven (7) inches wide on the top, and not less than eighteen (18) nor more than twenty (20) inches deep; they are to be hammered on top, and fine pointed three (3) inches down on the back and squared with the top; the face is to be straight split, square with the top.

PAVING BLOCKS.

Each and every block is to be of good quality granite, is to be three and one-half (3½) to four and one-half (4½) inches wide; seven and one-half (7½) to eight (8) inches deep; and nine (9) to fourteen (14) inches long, averaging not less than eleven and one-half (11½) inches long; the edges are to be sharp and straight forming right angles at their intersections, both horizontally and vertically, and the faces are to be straight split and free from bunches and depressions exceeding one-half (½) inch.

Bids are to state the price per linear foot for furnishing and delivering edgestones, and the price per thousand for furnishing and delivering paving blocks, all deliveries to be f.o.b. Haverhill, at such times and in such quantities as the Superintendent of Highways may require.

Bids to be endorsed "Proposals for Furnishing Edgestones and Paving Blocks," and to be sent to the Clerk of the Committee.

The Committee reserves the right to reject any and all bids.

A. L. GILLEN,
21-1t Clerk of Committee.

STORAGE RESERVOIR.

WITHDRAWAL OF ADVERTISEMENT—NOTICE TO CONTRACTORS.

Bozeman, Mont., May 16, 1903.

By Order of The Bozeman Creek Reservoir Co.

The notice which appeared in the Engineering News on May 14th, 1903, calling for bids for the Construction of a Storage Reservoir Dam at Mystic Lake, Gallatin County, Mont., on June 8th, 1903, is herewith withdrawn. No bids will be received and no contracts awarded on the date named. 21-1t

F. W. BULL, Secretary.

SPIRAL RIVETED PIPE, RUBBER CONNECTIONS.

Richmond, Va., May 19, 1903.

Sealed proposals will be received at this office until 5 p.m., Tuesday, June 2d, 1903, for the following articles:

Two thousand (2,000) feet 12-in. Asphalt Spiral Riveted Pipe.

30 rubber connections for same.

Full information to bidders can be had upon application at this office.

The Committee on Improvement of James River reserves the right to reject any and all bids offered and to award the contract as a whole or in separate parts. 21-1t

W. E. CUTSHAW, City Engineer.

U. S. ENGINEER OFFICE, Duluth, Minn., April 29, 1903.—Sealed proposals for furnishing 43,000 cu.yds. broken stone, or 43,000 cu.yds. pebbles for Concrete South Pier at Superior Entry, Wis., will be received here until noon May 29, 1903, and then publicly opened. Information on application. D. D. GAILLARD, Capt., Engrs. 19-3t

U. S. ENGINEER OFFICE, Milwaukee, Wis., May 4, 1903.—Sealed proposals for building Pile Revetment at Two Rivers Harbor, Wis., will be received here until 3 o'clock p.m., June 3, 1903, and then publicly opened. Information furnished on application. J. G. WARREN, Major, Engrs. 19-4t

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Mobile, Ala., until 12 o'clock m., May 30, 1903, and then opened for furnishing all materials and labor necessary for Protecting Ship Island Light Station, Miss., and Pass Manchac Light Station, La., in accordance with specifications, copies of which, with blank proposals and other information, may be obtained on application to Capt. WILLIAM E. CRAIGHILL, U. S. A., Engineer 8th Light-House Dist. 19-4t

SEWERS AND DRAINS.

Ridgefield Park, N. J.

Sealed proposals will be received by the Board of Trustees of the Village of Ridgefield Park, in the County of Bergen and State of New Jersey, for the construction of Sewers and Drains along and through the following roads, streets and avenues:

Bergen Turnpike, from Teaneck Road to Elm St.;

Teaneck Road, from the Bergen Turnpike northerly to the southerly end of the completed sewer in said Teaneck Road;

Maple St., from the Bergen Turnpike northerly to the end of sewer in such street, as shown upon the map of such sewers on file with the Village Clerk, and being within one hundred (100) feet, more or less, of Elm St.;

Oak St., from the Bergen Turnpike northerly to the end of the sewer in such street, as shown by the aforesaid map, and being within one hundred (100) feet, more or less, of Elm St.;

First St., from the Teaneck Road westerly to within one hundred (100) feet, more or less, of Central Ave.;

Second St., starting within one hundred (100) feet, more or less, from Teaneck Road and extending westerly to within one hundred (100) feet, more or less, of Central Ave.;

Teaneck Road, from First St. to Third St.;

Also for the extending and lengthening out of the outlet to Sewer System Number Three (3) at Ridgefield Ave., and

Also for the extending and lengthening out of the outlet to Sewer System Number Two (2) at North St.

Specifications and the form of proposals may be obtained and plans and profiles seen at the residence of John W. DeGroat, Chairman Sewer Committee, corner First St. and Bergen Ave., in Ridgefield Park, N. J. The bidders shall carefully examine the specifications and profiles and will be required to bid on all items mentioned in the specifications. All bids to be sealed and properly endorsed, and to be in the hands of the Village Clerk on or before the first day of June, A. D. Nineteen Hundred and Three, at eight o'clock p. m. The bids will be opened at a meeting of the Board of Trustees of the Village of Ridgefield Park, N.J., in the Hose House, on Mount Vernon St., on the first day of June, A.D. Nineteen Hundred and Three, at eight o'clock p. m. All bids must be accompanied by a certified check on a National Bank to the order of the Board of Trustees of the Village of Ridgefield Park, for one thousand ($1,000) dollars, or by that amount in cash, to guarantee the good faith of the bidder, and that he will enter into a contract for such work if awarded to him, and upon neglect or refusal to enter into such contract, such deposit shall be forfeited absolutely to the Village of Ridgefield Park.

The right to reject any or all bids is hereby reserved. JOHN L. OBERG, President.

Attest:
CARL HALLBERG, Village Clerk. 21-2t

WATER-WORKS.

Dillon Mont., May 14th, 1903.

Sealed proposals will be received by the City Council of the City of Dillon, Montana, until 2 o'clock p. m., June 10, 1903, for furnishing material and constructing a waterworks system for the City of Dillon.

Plans and specifications may be seen at the office of the City Clerk of the City of Dillon, Montana, or at the office of Doremus & Kelsey, Civil Engineers, Salt Lake City, Utah.

The right is reserved to reject any and all bids.

21-3t B. F. WHITE, Mayor.

PIPE SEWERS.

Ansonia, Ohio.

Sealed proposals, addressed to C. A. Ackerman, Village Clerk, Ansonia, Ohio, will be received up to 10 o'clock, Thursday, June 4th, 1903, for the construction of approximately six thousand dollars' worth of Pipe Sewers and appurtenances. Bids must be accompanied by a certified check of Five Hundred ($500) Dollars, on some National Bank in Greenville, Ohio, made payable to William Werts, Mayor, without conditions. Same to be forfeited as liquidated damages in case of failure of successful bidder to enter into contract and bond as required by the Village Council within ten days after notification of acceptance of bid.

The Council reserves the right to reject any or all bids.

Plans, profiles and specifications may be seen at the Village Clerk's Office on and after May 25, 1903. WILLIAM WERTS, Mayor.

JUSTIN M. DeFORD, Engineer. 21-2t

WATER-WORKS IMPROVEMENTS.

Ilion, N. Y.

Sealed proposals will be received by the Board of Water Commissioners, of the Village of Ilion, N. Y., until 12 o'clock noon, on the 9th day of June, 1903, for the construction of improvements to the Ilion Water Supply System, consisting in general of a covered filter bed, about 45 ft. by 200 ft.; an impounding reservoir of about 63,000,000 gallons capacity; a masonry intake on Hawke's Creek, and the connecting pipe lines, consisting approximately of 5,700 ft. of 6-in., 350 ft. of 8-in., 1,850 ft. of 10-in., and 4,250 ft. of 12-in. cast-iron pipe, with their accessories of valves, specials, etc. Bids will be received on the cast-iron pipe and pipe furnishings, on the pipe laying, and Hawke's Creek intake, on the filter beds, and on the impounding reservoir, separately, or on the work as a whole.

Plans can be seen and specifications obtained at the office of the Board at Ilion, or at the office of Knight & Hopkins, Engineers, Rome, N. Y., after May 26.

The Board hereby reserves the right to reject any or all bids, or accept any that in their judgment will be for the best interests of the Village.

A bond satisfactory to the Board in amount and sureties will be required of those to whom the contract may be awarded.

Cash or a certified check, made payable to the order of the Board of Water Commissioners, of Ilion, N. Y., to the amount of $500 must be deposited by each bidder and accompany his bid as a guarantee that in case the contract is awarded him, he will, within seven days thereafter, execute said contract.

Bids must be sealed and addressed to the Board of Water Commissioners, Ilion, N. Y., and marked on the outside of the envelope enclosing them "Proposals for Ilion Water-Works."

Signatures of Board Members.

C. M. GRAY, President.

A. N. RUSSELL, Secretary.
I. V. SCHMIDT, Treasurer.
FREDERICK JOERISSEN.
THOMAS RINGWOOD. 21-2t

ELECTRIC LIGHT PLANT, BOILERS, ETC.

Caledonia, Minn., May 12, 1903.

Bids are wanted at once by the undersigned for furnishing the following for an electric light plant: 1 engine, 125 HP.; 2 boilers, 80 HP. each; 2 dynamos, 40 KW. each. Usual reservations. Send prices, catalogues, etc.

JERRY KENNY, Village Recdr.
WALTER GOERGEN, President. 21-2t

WATER GATES, WATER PIPES AND SPECIALS.

Office of
The Board of Water Commissioners
of the City of Yonkers,
Yonkers, N.Y., May 11, 1903.

Sealed proposals will be received by the Board of Water Commissioners of the City of Yonkers, at a meeting thereof to be held at its office, Manor Hall, on Thursday, the 4th day of June, next, at 8 p. m., for furnishing the following pipes, gates and fixtures:

Cast-iron pipe, 53 tons.
Bell and spigot specials, 8,900 lbs.
Flange and spigot specials, 9,600 lbs.
One manhole frame and cover.
One pure water reservoir, manhole frame and cover.
Two catchbasin frames and covers.
Two 20-in. gates, with bells.
One 20-in. gate, with flanges.
Six 16-in. gates, with flanges.
Five 12-in. gates, with flanges.
One 8-in. gate, with flanges.
One 6-in. gate, with bells and automatic drip.
Two indicator posts.
Three street boxes.
Seven bushings to be set in concrete floor.
Twelve extension stems.
Sand washer.

Specifications can be seen and forms of proposal obtained at the office of the Board or at the office of Allen Hazen, C.E., St. Paul Building, New York City.

Each proposal must be sealed, addressed to the Board of Water Commissioners of the City of Yonkers, endorsed, "Proposals for furnishing Pipes, Gates and Fittings," and must be accompanied by the written consent of two sureties or a surety company, to become guarantors of the faithful performance of the contract.

The Board of Water Commissioners reserves the right to accept or reject any or all proposals.

By order of the Board.

JOSEPH H. BEALL, President.
A. W. KINGSBURY, Clerk. 21-1t

12 MILES OF MACADAM ROADS.

Burlington County, N. J.

John E. Darnell, Director of the Board of Chosen Freeholders of the County of Burlington, hereby calls for bids for the construction of the following macadam roads in the County of Burlington:

1. Road beginning at a point where the Red Lion and Vincentown Road intersects the stone road from Vincentown to Cross-roads, known as the "Vincentown and Red Lion Road," and runs in a southerly direction following the line of the Vincentown and Red Lion Road to the village of Red Lion, a distance of about three and a half miles. Said road is to be 12 ft. wide and 6 ins. deep.

2. Road known as the Bordentown and Crosswicks and Chesterfield Road, consisting of two sections as follows:

(a) Road beginning at the city line of the City of Bordentown, and extending to the intersection of Bridge Ave. and Main St., in the Village of Crosswicks, about three and one-fifth miles long;

(b) Road beginning at its intersection with the last-mentioned road, and extending to the Village of Chesterfield, a distance of about two miles.

Said road, composed of the two sections aforesaid, to be 12 ft. wide and 6 ins. deep.

3. Road from Masonville to Moorestown. This road is to be of different widths and different depths, as will be seen by an examination of the specifications. This road is about three miles in length.

Bids will be received for the construction of these roads, upon the following conditions:

1. All bids shall be in writing.

2. All work and construction to be done on said roads shall be strictly according to the specifications prepared, and approved by the State Commissioner of Roads, and the said Board of Chosen Freeholders.

3. Each bidder must accompany his bid with a certified check, payable to John E. Darnell, Director of the Board of Chosen Freeholders of the County of Burlington, for one thousand ($1,000) dollars, as a guarantee that if said work is awarded to said bidder he will enter into a contract with said Board to do the work.

4. The successful bidder will be required to give a surety company bond to secure his contract in an amount equal to the estimated cost of said work.

5. All bids shall be presented to a committee appointed by said Board of Freeholders, at the Court House, in Mount Holly, N.J., on Monday, the 8th day of June, next, at 2 o'clock in the afternoon, at which time and place all bids will be immediately opened and publicly read.

6. No bids shall be presented to any member of said Board of Freeholders or any member of the committee thereof, except at the above stated time and place.

7. That the Board of Chosen Freeholders retains the privilege of rejecting any or all bids.

JOHN E. DARNELL, Director.

N. B.—The plans and specifications for the above mentioned road can be seen at the law offices of Charles K. Chambers, in the Masonic Temple, Mount Holly, N. J. 21-3t

WATER PIPE WITH 24-IN. FLEXIBLE PIPE.

North Tonawanda, N. Y.

Sealed proposals, endorsed "Proposals for Pipe Laying," and addressed to George J. Smith, City Clerk of the City of North Tonawanda, N. Y., will be received and opened at 8 o'clock p.m., on June 15th, 1903. The work will comprise a 24-in. cast-iron Force Main, laid from the Pumping Station to Main St.; the river crossing will be laid with 24-in. Flexible Cast-Iron Pipe. A certified check of $2,000, made payable to the order of Charles Kohler, City Treasurer of the City of North Tonawanda, N. Y., must accompany each proposal, as a guarantee that the contract will be executed and bond filed as provided in the Specifications. Plans and specifications are on file in the office of the City Clerk where they may be examined and forms for proposals obtained. The City reserves the right to reject any or all bids.

JOHN KAISER,
President of Board of Public Works.

Dated May 16th, 1903, City of North Tonawanda, N. Y. 21-1t

BRICK PAVING.

Engineer's Office, 11 Masonic Temple,
Sandy Hill, N. Y.

Proposals for laying about 30,000 sq. yds. of Brick Pavement, including curb and excavation, and furnishing all material, except the brick, will be received by the Board of Trustees until noon May 28, 1903.

Write to the Engineer for specifications and proposal blanks. 21-1t

ORSON C. RICHARDS, Engineer.

FOR SALE

Space under this head is sold at the uniform rate of $1.50 an inch; minimum charge, $1.50 a week . . .

INSTANT DELIVERY

STEAM SHOVELS

SPECIAL

Barnhart, Model G type, 2½-yard, 60 tons, new boom, new 65-HP. boiler, engines on crane, splendid shape, good as new, f. o. b. Philadelphia.

Bucyrus, 65-ton, first-class condition.

One Little Giant, 1¼-yard, modern, 28 tons, 3 sets engines; good as new.

READY TO SHIP

DALLETT & COMPANY

201 Walnut Place, PHILADELPHIA, PA.

20-tf

CONTRACTORS' PLANTS for Sale

Two Ingersoll Air Compressors. 400 Cubic feet each. Two 100 H.P. return Tubular Boilers. 4 Ingersoll Drills. Brennan Crusher, 300 to 400 Tons per day. 50 H.P. Locomotive Boiler. 35 H.P. Engine. Screen. Elevators. Bins. 10-Ton Asphalt Roller. Buchannan Rock Crusher 16 x 26.

J. L. KROM, 123 Liberty St., N. Y. 21 1t

FOR SALE.

1 16 x 24-in. Passenger **Locomotive.**
2 12 x 12-in. Lambert **Cableway Engines.**
1,600-ft. 2-in. new Plough **Steel Cables.**
12 **Steam Pumps.**
12 **Steam Engines,** various sizes.

O. R. WHITNEY, 39 & 41 Cortlandt St. NEW YORK

One New Horizontal Cross-Compound Engine

FOR SALE.

Cylinders 30x56x60-in., with fly wheel pulley 24-ft. diameter, 10-ft. 6-in. face, for two 60-in. belts. With or without condensor. 24-tf

VULCAN IRON WORKS, Wilkesbarre, Pa.

FOR SALE

See first column for rates

FOR SALE.

Emery Mills

Two 30-inch vertical improved Sturtevant Rock Emery Mills, complete, ready for belts, and with extra set of emery stones to fit either mill. Guaranteed first-class in all respects

VIRGINIA PORTLAND CEMENT CO.

CRAIGSVILLE, VA., 15-tf

Or 68 WILLIAM STREET, NEW YORK.

FOR SALE.

1 7 x 10" D. C., D. D. Lidgerwood Hoisting Engine with boiler and third drum swinging gear.
1 7 x 10" D. C., D. D. Lidgerwood Hoisting Engine with boiler.
1 2-yd. Steam Shovel.
20 Flat Cars, 30-in. gage.
20 Ingersoll-Sergeant Air Drills, F-24.
4 Ingersoll-Sergeant Baby Drills, A-35.
10 Tunnel Columns, 6 and 8-ft.
1 Blake Crusher, 10 x 16".
1 Slide Valve Engine, 9 x 12".
1 " " 10 x 14".
1 " " 7 x 10".
1 Smith Mixer and Engine, mounted.
1 10-HP. Gasoline Engine.
1 No. 9 Cameron Steam Pump.
1 No. 8 " " " "
4 No. 4 " " Pumps.
5 Wells Lights.
1 Sturtevant Blower, No. 8.
1 American Blower, No. 9.

Boiler Feed Pumps, Diaphragm Pumps, Derrick Fittings, etc.

CONTRACTORS' PLANT DEPOT,

G. W. ENOS, C. E.,

27 William Street, NEW YORK.

TELEPHONE, 2615 BROAD.

FOR SALE

See first column for rates

Steam Shovels

FOR SALE OR RENT.

One 50-ton Vulcan. 1½-yd. capacity, with crowding engines.

One Little Giant "Special," 1¼-yd. capacity, with crowding engines.

One Little Giant Traction, 1¼-yd. capacity, with crowding engines.

One "Baby" Giant, ¾-yd. capacity, with crowding engines.

W. J. CARLIN COMPANY

34th St. & A. V. R. R., 21-tf Pittsburg, Pa.

New Sturtevant Crusher

6 x 24 Roller Jaw Cost, $1,200

For Sale CHEAP

EMPIRE PORTLAND CEMENT COMPANY

WARNERS, N. Y. 21-tf

FOR SALE.

12 x 36 Hamilton Corliss Engine, Direct-connected to 30-ton Linde Ice Machine.

55-HP. White & Middleton Gasoline Engine.

25-HP. Otis double cylinder Elevator Engine, with Drum.

125-HP. Horizontal Return Tubular Boiler, Complete with full front and all fittings.

6 x 8 Vertical Remington Ice Machine.

All of the above in perfect condition.

Mengel's Machinery Exchange,

12 E. Lombard St., Baltimore, Md. 19-tf

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By C. W. REINHARDT. Price, $1.00
By Prof. H. S. JACOBY. Price, $3.00

FOR SALE

See first column for rates

FOR SALE

STEEL RAILS

from stock in New York

65 tons 40
50 tons 50 A. S. C. E. pattern
125 tons 60 A. S. C. E. pattern

with Angle Joints Complete

Rails are No. 2, in excellent condition, usual lengths

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World's Fair Route

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Warren J. Lynch, Gen'l Pass. Agt. **W. P. Deppe,** Ass't Gen'l P. A.

CINCINNATI, OHIO

For other For Sale Advertisements see pages XXVI., XXVII., XXVIII., XXIX., of Advertisements.

OVER 130 MILES OF STATE HIGHWAY IMPROVEMENTS.

NOTICE TO CONTRACTORS.

State of New York,
Office of the State Engineer and Surveyor,
Albany, N. Y., May, 1903.

Pursuant to Chapter 115 of the Laws of 1898, sealed proposals will be received by the undersigned, at his office in the State Hall, at Albany, N. Y., on Monday, the 8th day of June, 1903, at 12 o'clock noon, for the improvement of public highways, as follows:

No. 72—Catskill Road, Tompkins county; length, 1.869 miles.
No. 126—Town Line Extension Road, Broome county; 1.970 miles.
No. 127—Park Bridge Road, Broome county; length, 2.040 miles.
No. 128—Aurora-Buffalo Road, Erie county; length, 5.573 miles.
No. 129—River Road, Secs. 2-3, Erie county; length, 3.015 miles.
No. 130—Main Street Road, Sec. 4, Erie county, length, 5.625 miles.
No. 131—Main Street Road, Sec. 5, Erie county; length, 6.581 miles.
No. 132—Genesee Turnpike, Onondaga county; length, 1.130 miles.
No. 133—Little Falls-Dolgeville Road, Herkimer county; 2.290 miles.
No. 134—Fenton Road, Broome county; length, 2.170 miles.
No. 135—Violet Avenue Road, Dutchess county; length, 3.290 miles.
No. 136—Windsor Road, Sec. 2, Clinton county; length, 1.750 miles.
No. 137—Plattsburg-Keeseville, Sec. 2, Clinton county; 4.520 miles.
No. 138—Plattsburg-Mooers, Sec. 1, Clinton county; 7.570 miles.
No. 139—Hamilton Bridge Road, Oneida county; length, 1.290 miles.
No. 140—Seneca Turnpike, Oneida county; length, 2.280 miles.

Sealed proposals will also be received by the undersigned at his office in the State Hall at Albany, N. Y., on Wednesday, the 10th day of June, 1903, at 12 o'clock noon, for the improvement of public highways as follows:

No. 141—Kingston-Ellenville, Sec. 3, Ulster county; 6.820 miles.
No. 142—Saugerties-Woodstock, Sec. 3, Ulster county; 2.850 miles.
No. 143—Echo Lake-Pine Bridge, Westchester county; 3.140 miles.
No. 144—Bedford-Cross River, Westchester county; 5.230 miles.
No. 145—Delaware River Road, Delaware county; length, 1 mile.
No. 146—Geneva-Canandaigua Road, Ontario county; 5.624 miles.
No. 147—Burr's Mills Road, Jefferson county, 3.920 miles.
No. 148—Pine Bridge-Yorktown Heights, Westchester county; 3.490 miles.
No. 149—Yorktown Heights-Putnam county Line, Westchester county; 6.620 miles.
No. 150—Cross River-Turk Hill, Westchester county; 3.460 miles.
No. 151—Turk Hill-Putnam County Line, Westchester county; length, 5.520 miles.
No. 152—Fonda, East, Montgomery county; length, 2.500 miles.
No. 153—Newburg-Campbell Hall, Orange county; length, 13.380 miles.
No. 154—Chester-Vails Gate, Orange county; length, 11.490 miles.
No. 155—Fonda, West, Montgomery county; length, 2.500 miles.
No. 156—Chester-Goshen Road, Orange county; length, 3.530 miles.

Plans and specifications for all of the above work may be seen at the office of the undersigned. They may also be seen for all roads in the counties of Herkimer, Dutchess, Clinton, Ulster, Westchester, Delaware, Montgomery and Orange at the office of H. A. Van Alstyne, Division Engineer, State Hall, Albany, N. Y., for the counties of Tompkins, Broome, Onondaga, Oneida and Jefferson, at the office of W. H. H. Gere, Division Engineer, Weighlock, Syracuse, N. Y.; for the counties of Erie and Ontario, at the office of A. J. Rockwood, Division Engineer, Triangle Building, Rochester, N. Y. Plans and specifications for the roads within each of the following counties may be seen at the office of the County Clerk of the county within which each road is located, respectively: Tompkins, Herkimer, Dutchess, Delaware, Montgomery and Jefferson; and at the office of the Clerk of the Board of Supervisors of the county within which each road is located respectively: Broome, Erie, Onondaga, Clinton, Oneida, Ulster, Westchester, Ontario and Orange.

The attention of bidders is called to the fact that the following roads are in such close proximity to each other that they can be economically managed by the same contractor: Nos. 126, 127 and 134; Nos. 130, and 131; Nos. 139 and 140; Nos. 152 and 155; Nos. 143, 148 and 149; Nos. 144, 150 and 151.

Proposals must be made for the completion of each road for a lump sum in accordance with plans and specifications. Each proposal must be accompanied by New York draft or certified check payable at sight to the order of the State Engineer and Surveyor for 5% of the proposal. Such draft or check will be held until the execution of the contract. The successful bidder must give a bond executed by a surety company approved by the undersigned and in the amount not to be less than 50% of the contract price. Attention is called to the fact that 90% monthly payments will be made instead of 75% as formerly.

Proposals for each road must be presented in a separate sealed envelope endorsed on the outside with the number and name of the road for which the proposal is made.

Specifications, bidding sheets and form of contract may be had on application to the undersigned or to the Division Engineers above mentioned.

The right is reserved to reject any and all bids.

EDWARD A. BOND,
State Engineer and Surveyor.

21-3t

SEA-GOING SUCTION DREDGES FOR NEW YORK HARBOR.—U.S. Engineer Office, Philadelphia, Pa., May 14, 1903.—Sealed proposals for constructing two large steel, twin-screw, Suction Dredges, will be received at this office until 12 o'clock noon, June 30, 1903, and then publicly opened. Proposals for constructing both dredges or one will be received. Information furnished on application. J. C. SANFORD, Capt., Engrs. 20-2t 24-2t

ENGINEER OFFICE, U. S. Army, Room 2, Custom House, Norfolk, Va., April 25, 1903.—Sealed proposals for furnishing and delivering piles, lumber, bolts, nuts, washers, nails, and spikes, at Fort Monroe, Va., will be received here until 12 m., May 25, 1903, and then publicly opened. Information furnished on application. 19-2teow

PIPE SEWERS AND SLUDGE BED.

Woonsocket, R. I., May 18, 1903.

Sealed proposals for the following described work will be received by the Board of Sewer Commissioners of the City of Woonsocket, R. I., at their office, Room 15, Longley Bldg., No. 194 Main St., Woonsocket, R. I., until 2 o'clock p. m., Monday, June 1st, 1903:

In Rathbun St., about 400 ft. of 10-in. pipe sewer.

In Pond St., about 570 ft. of 8-in. pipe sewer.

In Park Ave., about 300 ft. of 8-in. pipe sewer.

In Gaulin Ave., and right of way from Gaulin Ave. to Cumberland St., about 1,410 ft. of 8-in. pipe sewer.

At the east filter field (so-called) a small sludge bed and a filter bed about 140 x 280 ft., and 5 ft. deep.

Plans and specifications may be seen and blank form of proposal be obtained at the office of the City Engineer, No. 169 Main St., Woonsocket, R. I.

Each sewer and its appurtenances and the filter beds must be bid for separately, and each bid must be accompanied by a certified check for the sum of five hundred ($500) dollars, made payable to the order of Samuel P. Cook, City Treasurer of the City of Woonsocket, R. I., as surety that if the bid is accepted a contract will be entered into.

The right is reserved to reject any and all bids.

FRANK E. HOLDEN,
GEORGE S. READ,
JOSEPH MEUNIER,
Board of Sewer Commissioners.

FRANK H. MILLS, City Engineer. 21-2t

BRICK, WOOD OR MACADAM PAVING.

City of Bridgeport, May 18, 1903.

Sealed proposals will be received by the Street Committee of the Common Council of Bridgeport, Conn., at Room 10, City Hall, until 8 o'clock p.m. of Friday, May 29, 1903, for furnishing and laying about 4,100 sq. yds. of Brick, Wood or Bituminous Macadam Pavement.

A certified check for $1,000, made payable to the City of Bridgeport, must accompany each bid.

Specifications, including form for bid, may be had by addressing H. G. Scofield, City Surveyor.

The right to reject any and all bids is reserved. E. T. BUCKINGHAM,
21-2t Clerk.

SEWERAGE SYSTEM

FOR THE TOWNSHIP OF MILLBURN, N. J.

ADVERTISEMENT.

Sealed proposals for building a Sewerage System for the Short Hills District of the Township of Millburn, N. J., in accordance with the contract and specifications furnished by the Township Committee, will be received at the Town Hall at 8:30 p.m., on June 8, 1903, and at that time and place will be publicly opened and read.

The work includes the construction of

21,150 ft of 8-in. pipe;
54 manholes;
17 flushtanks;
500 cu. yds. of rock.

Each proposal must be accompanied by a certified check for $2,000. Plans and specifications can be seen at the office of the Township Clerk, and at the office of the Engineer, No. 143 Liberty St., New York City. The right is retained to reject any and all bids.

By order of the Township Committee.

WELLINGTON CAMPBELL, M.D., Chairman.
JOHN L. GENTZEL, Township Clerk.
ALEXANDER POTTER, Chief Engr. 21-3t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 14, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 25th day of June, 1903, and then opened, for the construction (not including heating apparatus, electric wiring and conduits) of the U. S. Post Office at Leadville, Colo., in accordance with the drawings and specifications, copies of which may be had at this office, or at the office of the Postmaster at Leadville, Colo., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 21-2t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 14, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 18th day of June, 1903, and then opened, for the construction (including plumbing, heating apparatus, electric wiring and conduits) of the U. S. Post Office at Boone, Ia., in accordance with drawings and specifications, copies of which may be had at this office or the office of the Postmaster at Boone, Ia., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 21-2t

WANTED

Prices on Steel Tower

60 feet high, 40,000 gal. capacity, 226 tons, 8 in. water mains, 1st or good 2d hand, 78 tons of 6 in., and 53 tons, 4 in., two 40-horse power boilers, 2 pumps, standard make, daily capacity 250,000 each.

Address JERRY REDFERN, C. E., Lancaster, Ky.

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 159.

Agencies.
Moore, J D, 45 Liberty st, New York

Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa

Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co, Montour Falls, N Y
Gray-Blaisdell Co, Bradford, Pa
Guild & Garrison, So 10th st, Brooklyn, N Y
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
McKiernan Drill Co, 170 Liberty st, N Y
Norwalk Iron Works, So. Norwalk, Conn
Rand Drill Co, 128 Broadway, New York
Southwark Foundry & Machine Work:, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa

Air Drill.
Columbus Pneumatic Tool Co, Columbus, Ohio

Air Hose Couplers
Clark Co, W J, Salem, Ohio

Aluminum.
Pittsburg Reduction Co, Pittsburg, Pa

Annealing Boxes.
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg, Pa

Artesian Wells.
Bacon Air Lift Co, 100 Broadway, New York
Cole Bros, 102 Fulton st, New York
Conlan, P H & J, Newark, N J
Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 123 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stotthoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y

Artesian Well Tools and Supplies.
Star Drilling Mach Co, 104 Fulton st, New York

Asphalt.
Commercial Asphalt Co, 11 Broadway, New York
Sicilian Asphalt Paving Co, Times bldg, New York
Warren Bros Co, 93 Federal st, Boston

Asphalt Machinery.
Cummer, F D. & Sons, Cleveland, O.
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y

Batteries (Storage).
Coho & Co, H B, 114 Liberty st, New York

Bearings (Ball and Roller.)
Ball Bearing Co, 2822 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia

Balances. (Assay and Analytical.)
Ainsworth, Wm. & Sons, Denver, Colo

Belt Dressing.
Dixon, Jos., Crucible Co. Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia

Belting (Leather)
Graton & Knight Mfg. Co, Worcester, Mass

Belt Lacing. (Steel.)
Bristol Co, Waterbury, Conn

Blast Furnaces.
Girard Boiler & Mfg Co, Girard, O
Means & Fulton Iron Works, Birmingham, Ala
Riter-Conley Mfg. Co, 55 Water st, Pittsburg, Pa

Blocks and Sheaves.
American Hoist & Derrick Co, St Paul, Minn
Boston & Lockport Blk. Co, 160 Commercial st, Boston
Hunt, C W Co, Richm'd Terrace, W N Brighton, S I
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
Yale & Towne Mfg Co, 9-13 Murray st, New York

Blowers.
American Blower Co, Detroit, Mich
Boston Blower Co, Business st, Hyde Park, Mass
Buffalo Forge Co, Buffalo, N Y
Connersville Blower Co, Connersville, Ind
Mass. Fan Co, Waltham Mass
Roots, P H & F M Co, Connersville, Ind
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Blue Printing Apparatus.
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Emerson Mfg. Co, F W, Rochester, N Y
Keuffel & Esser Co, 127 Fulton st, New York
Pittsburg Blue Print Co, 1505-C Park bldg, Pittsburg
Soltmann, E G, 123 E 23d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston

Blue Print Paper.
Elliott Electric Blue Print Co. Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E,G, 123 E 23d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)

Boiler Supplies.
Glasgow Iron Co, Pottstown, Pa

Boilers.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bacon, Earle C, 26 Cortlandt st, New York
Columbiana Boiler Co, Columbiana, Ohio
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
Iroquois Iron Works, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego, N Y
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Lidgerwood Mfg Co, 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas. & Bro, 29th & Railroad'sts, Pittsburg
Means & Fulton Iron Works, Birmingham, Ala
Mundy, J S, Newark, N J
Petroleum Iron Wks Co, Washington, Pa
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Sharon Boiler Works, Sharon, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O

Boilers (Water Tube.)
Babcock & Wilcox Co, 26 Cortlandt st, New York
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Keeler, E, Co, Williamsport, Pa
Walsh, W J, Holyoke, Mass

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Helwig Mfg Co, St. Paul, Minn

Bolts. (Expansion.)
Church, Isaac, Toledo, O
Steward & Romaine Mfg Co, 120 N 6th st, Phila

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Putman, H J, & Co, 38 Bridge sq, Minneapolis

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(see also Air Brakes.)

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Dickey, W S, Clay Mfg Co, Kansas City, Mo
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Jackson, John H, Albany, N Y
Johnsonburg Vit Brick Co, Johnsonburg, Pa
Mack Mfg Co, New Cumberland, West Virginia
McAvoy Vit Brick Co, 1345 Arch st, Philadelphia
Purington Paving Brick Co, Galesburg, Ill
Tomkins, Calvin, 120 Liberty st. New York
Western Brick Co, Danville, Ill

Brick. (Fire.)
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Bonnot Co, Canton, Ohio
Drake, C T, 300 W Jackson Boulevard Chicago

Bridge (Concrete).
Aberinaw Construction Co, Boston, Mas

Bridge Operating Machinery.
Edwards, Jos. & Co, 414 Water st. New York
Vulcan Iron Works, Chicago

Bridge Railings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros, Bridge & Iron Co, St. Louis, Mo

Bridges and Buildings.
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Baltimore Bridge Co, Bush st & B&O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 47 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
Concrete-Steel Engineering Co, Park Row bldg N
Easton Foundry & Machine Co, Easton, Pa
Ellwhey, Jr., & Co., John, Pittsburg, Pa
Fort Pitt Bridge Works, Pittsburg, Pa
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Joliet Bridge & Iron Co, Joliet, Ill
Kenwood Bridge Co, First Nat. Bank bldg, Chicago
King Bridge Co, Cleveland, Ohio
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Mount Vernon Bridge Works, Mount Vernon, Ohio
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New England Structural Co, Boston, Mass
Parker, T A, 202-208 North First st, Terre Haute Ind
Passaic Rolling Mill Co, Paterson, N J
Penn Bridge Co, Beaver Falls, Pa
Pennsylvania Steel Co, Steelton, Pa
Phœnix Bridge Co, Phœnixville, Pa
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Rogers Iron Co, Springfield, O
San Francisco Bridge Co, 220 Market st, San Franc
Scaife, W B, & Sons Co. Pittsburg, Pa
Shoemaker, Lewis F, & Co, Harrison bldg, Pa
Standard Bridge Co, Omaha
Strobel, C L, Monadnock block, Chicago, Ill
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Virginia Bridge & Iron Co, Roanoke, Va
Wabash Bridge & Iron Works. Wabash, Ind
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Stuebner, G L, Long Island City, N Y
Union Iron Works, Hoboken, N J

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Burners (Oil.)
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Cableways (Suspension.)
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Beatty M, & Sons, Welland, Ont
Broderick & Bascom Rope Co., St. Louis
Carson Trench Machine Co, 19 Dorrance st, Boston
Flory, S, Mfg Co, Bangor, Pa
Lambert Hoisting Engine Co, Newark, N J
Leschen, A, & Sons Rope Co, St. Louis
Lidgerwood Mfg Co, 96 Liberty st, New York
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
N. J. Foundry & Machine Co, 9 Murray st, N Y
Trenton Iron Co, Trenton, N J
United Telpherage Co, 20-22 Broad st, New York

Calking Yarn and Tools.
Ogden, J. Edward. Co, 149 Cedar st, New York

Car Couplers.
McConway & Torley Co Pittsburg, Pa
Railroad Supply Co, Bedford bldg, Chicago

Car Heating and Lighting.
Brill Co, J G, Philadelphia, Pa
Safety Car Heating & Lighting Co, 160 B'way, N Y

Car Trucks.
Brill, Co, J G. Philadelphia, Pa

Car Wheels.
Brill Co, J G, Philadelphia, Pa
Cayuta Wheel & Foundry Co, Sayre, Pa
Ramapo Iron Works, Hillburn, N Y

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Apex Equipment Co, 11 Broadway, New York
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G. Co, Philadelphia, Pa
Commercial ky Equipment Co, 120 Liberty st, N Y
Continental Equipment Co, 5-17 Battery Place, N Y
Efros Co, Chas, Bayonne, N J
Fairbanks, Morse & Co, Chicago
Ingoldsby Autom Car Co, Chemical bldg, St. Louis
Koppel, Arthur, 68 Broad st, New York
National Drill & Mfg Co, 159 La Salle st, Chicago
Pressed Steel Car Co, Pittsburg, Pa
Ramapo Iron Works, Hillburn, N Y
Standard Steel Car Co, Frick bldg, Pittsburg
Steubner, G L, 176 Third st, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

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Brill, J G Co, Philadelphia, Pa
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Koppel, Arthur, 68 Broad st, New York
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

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Brill, J G, Co, Philadelphia, Pa
Koppel. Arthur, 68 Broad st, New York

Cars (Wrecking & Ditching.)
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, O
Osgood Dredge Co, 37 State st, Albany N Y

Castings (Brass.)
Campbell, J B, Brass Works, Cascade st, Erie Pa

Castings (Iron.)
Builders Iron Foundry, Providence, R I
Brooks, T H, & Co, Cleveland, O
Coldwell-Wilcox Co, Newburg, N Y
Columbia Machine Works, 247 Chestnut st, Brooklyn
Dimmick Pipe Co, Birmingham, Ala
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Du Bois Iron Works, Du Bois, Pa
Easton Foundry & Machine Co, Easton, Pa
Fox, John & Co, 253 Broadway, N Y
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son, Genesee st, Utica, N Y
Poole, Robert, & Son Co, Baltimore, Md
Reading Foundry Co, Ltd, Reading, Pa
Sessions Foundry Co, Bristol, Conn
Variety Iron Works Co, Cleveland, O
Warren Foundry & Machine Co, 160 Broadway, N Y
(see also Sewer and Street Castings)

Cement (Portland.)
Alpha Portland Cement Co, Easton, Pa
Alsen's Am Portland Cement Wks, 45 Broadway, N Y
American Cement Co, 22 S 15th st, Philadelphia, Pa
Atlas Portland Cement Co, 30 Broad st, New York
Buckeye Portland Cement Co, Bellefontaine, Ohio
Copley Cement Mfg Co, 1123 Broadway, N Y
Empire Portland Cement Co, Warners, N Y
Fredenburg & Lounsbury, Metropolitan bldg, N Y
French, Samuel H, & Co, Philadelphia
General Supply & Construct'n Co, 8-10 Bridge st, N
Glens Falls Portland Cement Co, Glens Falls, N Y
Hartranft, Wm G, Cement Co, Philadelphia
Helderberg Cement Co, Albany, N Y
Illinois Steel Co, Rookery, Chicago
Kelley Island Lime & Transport Co, Cleveland, Ohio
Lawrence Cement Co, 1 Broadway. New York
Lehigh Portland Cement Co, Allentown. Pa
Sinclair & Babson, 45 Broadway, New York
Snyder, Hiram, & Co, 229 Broadway, New York
St Louis Portland Cement Co, St Louis
Thorn Cement Co, 112 Church st, Buffalo, N Y
Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas, Co, Wilmington, Del

Cement (Rosendale.)
Consolidated Rosendale Cem. Co, 26 Cortlandt st, N Y
Coplay Cement Mfg Co, 1123 Broadway, N Y
Cumberland (Md.) Cement & Mfg Co, P O Box 264
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co, Milwaukee, Wis
Snyder, Hiram, & Co, 229 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co, 141 Erie st, Buffalo, N Y
Western Cement Co, Louisville, Ky

Cement Kilns and Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bartlett, C O, & Snow Co, Cleveland, Ohio
Bonnot Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Dodge Mfg Co, Mishawaka, Indiana
Kent Mill Co, 170 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Smidth, F L, & Co, 60 Malden Lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Vulcan Iron Works, Wilkesbarre, Pa
West Pulverizing Mach. Co, Jersey City, N J

Cement Mixer.
Alexander Iron Works, Syracuse, N Y

Chain Blocks.
Yale & Towne Mfg Co, 9-13 Murray st, New York

Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y

Channeiers.
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago Ill

Chemists.
McKenna, Chas. F, 221 Pearl st, N Y
(see also Laboratories.)

Chimneys. (Brick.)
Custodis, A, Chimney Const'n Co, Bennett bldg, N Y

Coal and Ore Handling Machinery.
Aultman Co, Canton, Ohio
Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phila
Main belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co. 14-21 Park Row. N Y
Simpson, H S, Electric bldg, Cleveland
Steubner, G L, 175 Third st, Long Island City, N Y

Colleges (Engineering.) (see page IV.)

Concentrators.
Allis-Chalmers Co. Home Ins bldg, Chicago

Concrete Mixers.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 232 5th av, Chicago
Drake, C T, 300 W Jackson Boulevard, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y

Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey

Concrete Steel Construction
Aberthaw Con. Co, 12 Beacon st, Boston, Mass
Concrete Steel Eng. Co, Park Row Bldg, N Y
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
St. Louis Exp. Metal Co, St. Louis, Mo.
Turner Cons. Co, 11 Broadway, N Y

Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works. Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, So 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Conduits (Pipe.)
American Vitrified Conduit Co, 170 Broadway, N Y
Blackmer & Post Pipe Co, St. Louis, Mo
Camp, H B. Co, 170 Broadway, New York
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 39 Cortlandt st, N Y
Wyckoff Pipe & Creosoting Co., Stamford, Conn

Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1206 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 48 Classon ave, Brooklyn, NY
Eichleay, John, Jr, Co, Pittsburg
Esson, W A, & Co 1137 Stock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W H, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
McCabe, Jas. F, 504 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 13-21 Park Row bldg, N Y
Murphy, J M & Co, Windsor Arcade, N Y
O'Rourke, John F, Park Row bldg, New York
Phillips & Worthington, 11 Broadway, New York
Quigley, R M, & Co, Lincoln bldg, St. Louis, Mo
Regan & Mulock, D P, 4429 Chestnut st, Philadelphia
Snare & Friest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Crane & Co, Inc, 6 M. The Rookery, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Kennedy & Co, L. E., 17 Broadway, New York
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Standard Supply & Equipment Co, Philadelphia
Wickes Bros New York and Saginaw, Mich

Conveyors. (See Hoisting and Conveying Machinery; also see Trench Machines.)

Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 53 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y

Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion, Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st. Milwaukee
Wood, R D, & Co, Philadelphia, Pa

Cranes (Portable.)
North Penn Iron Co, 3d & Sedgley ave, Philadelphia

Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 19 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans, La
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slidell, La
U S Wood Preserving Co, 26 Broadway, New York
West Pascagoula Creosote Wks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J

Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston

Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul, Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Robbie Foundry & Machine Co, 138 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J

Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago

Differential Hoists.
Boston & Lockport Block Co, Boston, Mass

Ditching and Excavating Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S. Milwaukee, Wis
Carson Trench Machine Co, 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Souther, John, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill

Divar.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill

Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York

Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass

Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Godfrey, 3 W 29th St, N Y

Drafting Tables.
Emerson Mfg. Co, F W, Rochester, N Y
Hein Furniture Co, Toledo, O

Draftsmen's Supplies. (see Instruments.

Drain Tile (see Pipe, Vitrified Clay.)

Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bowers, A B San Francisco, Cal
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Fdy & Mach Co, 340 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co Toledo

Drilling and Boring Machines (Portable).
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 26th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools; also Rock Drills).

Drop Forgings.
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila

Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass

Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
West Pulverizing Machine Co, Jersey City, N J

Dynamite (see Explosives).

Dynamos.
C & C Electric Co, Central R R bldg, New York
Coho & Co, H B, 114 Liberty st, New York
General Electric Co, Schenectady, N Y
Storey Motor & Electric Co, Harrison, N J
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa

Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa

Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia

Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y

Employment Bureaus.
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. B, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y

Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Mietz & Weiss, 128 Mott st, New York
New Era Iron Work Co, 37 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 360 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Struthers-Wells Co, Warren, Pa
Temple Pump Co, 18th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, Il
(see also Engines, Oil.)

Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Fairbanks, Morse & Co, Chicago, Ill
Flory, S, Mfg Co, Bangor, Pa
Hunt, C W., Co, Richmond Terrace, W N Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 813 Carroll ave, Chicago
Mundy, J S, Newark, N J
Potter Mfg Co, 2019 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Buffalo Forge Co, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

ADVERTISERS' CLASSIFIED DIRECTORY.

Engines (Steam).
Allis-Chalmers Co, Home Ins bldg, Chicago
Buffalo Forge Co, Buffalo, N Y
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicag
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Ledel, Jas, & Co, Springfield, O
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Beisler, Chas. L, Erie, Pa
Kelly, O S Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich

Excavators and Excavating Machinery
(see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co, Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 40 Gold st, New York
Youngstown Iron & Steel Roofing Co, Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 910 Duquesne Way, Pittsburg

Faucets.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 3166 N 11th st, Phila
Patterson, Frank L, & Co, 25 Church st, New York
Robertson, Jas. L, & Sons 192 Fulton st, New York
Stilwell-Bierce & Smith-Valle Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
International Fence & Fireproofing Co, Columbus, O
Lamb Wire Fence Co Adrian, Mich

Filet. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Valle Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Valle Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jackson Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B, & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O
Robertson, Jas L, & Sons, 92 Fulton st, New York

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Brousley A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
Metropolitan Fire Proofing Co, Trenton, N J
Ransome Concrete Machinery Co, 11 Broadway, N Y
Ransome & Smith Co, 11 Broadway, N Y
Roebling Construction Co, 21 Liberty st New York
St Louis Expanded Metal Fireproofing Co, St Louis
Wight, W N, & Co, 160 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 93 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago Ill

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Buffalo Forge Co, Buffalo, N Y
Roots, P H & F M, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 508 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 2001-65 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Dodge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co, York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
Koppel, Arthur, 66-68 Broad st, N Y
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces (Gas).
American Gas Furnace Co, 23 John st, New York

Furnaces (Oil).
Petroleum Iron Works, Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Galvanizing Kettles.
Columbiana Boiler Co Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnace.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Exhausters.
Connersville Blower Co, Connersville, Ind

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U. S. Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
International Fence & Fireproofing Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell, H W, & Son Co, Chicago
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 526 Pearl St, Berlin, Wis

Governors (Water-Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Manhattan bldg, Chicago
National Drill & Mfg Co, 139 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone, also Paving Blocks).

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon Jos., Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Dobbie Foundry & Mach Co, 138 Dey st, N Y
Robertson, Jas L, & Sons, 192 Fulton st, New York

Greenhouses.
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Columbian Hardware Co, Cleveland, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3836 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am. District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Dress n Co Geo V, Philadelphia
Larson Trench Machine Co, Boston, Mass
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittston, Pa
Harland, M. Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 1 Broadway, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Steel Cable Engineering Co, 120 Liberty st, New York
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
Hunt, C W, Co, Richmond Terrace, WN Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Sawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen N A, 1212-7 Herron bldg, Milwaukee
General Pneumatic Tool Co, Montour Falls, N Y

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 508 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 255 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co. Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Blow, J B & Sons, Lake & Franklin sts. Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Gilmore, J K, & Co, 149-51 Drexel bldg, Phila
Drummond, M J, & Co, 152 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son, Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Deming Co, Salem, Ohio
Pelton Water Wheel Co, 134 Main st, San Francisco
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co. Philadelphia, Pa

Hydraulic Presses.
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co, 134 Main st, San Francisco

Ice and Refrigerating Machinery.
Featherstone Fdy & Mach Co. 348 N Halsted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass
Robertson, Jas L. & Sons, 192 Fulton st, N Y

Injectors.
Hayden & Derby Mfg Co. 85 Liberty st, New York
Lunkenheimer Co. Cincinnati, Ohio

Instruments (Engineering, Drafting).
Ainsworth, Wm. & Sons. Denver Colorado
Albrecht, C. R., 62 Fulton st, New York
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Alteneder, Theo, & Sons, 945 Ridge ave, Phila, Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st, Toledo, Ohio
Berger, C L, & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J P Station, Boston, Mass
Dietzgen, Eugene Co, 181 Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Hardtmuth, L & C, 49 Barclay st, New York
Heller & Brightly Spring Garden st & Ridge av, Phila
Hetherschied Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 900 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G, 302 School st, Boston
Lietz, A, Co, 422 Sacramento st, San Francisco, Cal
Mahn & Co. 310-312 Olive st, St. Louis
Pister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc. Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sala, J C, 429 Montgomery st, San Francisco
Schwencke, Kirk & Co, 26 Church st, New York
Soltmann, E G, 123 E 42d st, New York
Stackpole & Bro, 39 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Ulmer, J C, & Co, 224 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wittstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 4th st, Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co, Springfield, O
Schriefer, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co. Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo American Trust Co, 725 Carpenter st, Phila
Julian Bros, 110 Mott st, New York

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton O
General Fireproofing Co, Youngstown, O
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kitson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Beisler, Charles L, Erie, Pa.
Porter, H K Co Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st, New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand).
(See Railway Equipment, Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 13 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Stamford, Conn
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 514 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Chicago House Wreck Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co. 1531 Monadnock blk Chicago
Contractors' Plant Depot, 27 William st, New York
Driscoll, J T., McCormick bldg, Chicago
Etros Co, Chas Bayonne, N J
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co, Park Row bldg, New York
Low, Edgar S Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Whitney, O R, 39 Cortlandt st, New York

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 508 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 86 Crescent st, Athol, Mass

Merchandise Checks.
Am. Ry supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Buffalo Forge Co, Buffalo, N Y
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Buffalo Meter Co. East Pittsburg, Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 135 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 253 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mining Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 92 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Valle Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West av, Long Island City, N Y

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro
Robertson, Jas L, & Sons, 192 Fulton st, New York

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 69 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
Michigan Paint Co, 65 Woodland ave, Cleveland, O
National Paint Works, Williamsport, Pa
Rinald Bros, 1142 N Hancock st, Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New York
Standard Paint Co, 103 William st, New York
Toch Bros, New York
Zibell Damp-Resisting Paint Co, N Y

Paint (Cold Water).
Bird & Co, J A & Co, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N Y

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 93 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 66 Broad st, New York
Meredith J F, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Southern Creosoting Co, Slide 1, La
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Pipe (Cast Iron).
Builders Iron Foundry, Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick Pipe Co, Birmingham, Ala
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John, & Co, 253 Broadway, New York
Musillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 360 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
Warren Foundry & Machine Co, 100 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas. & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Abendroth & Root Mfg Co, Newburgh, N Y
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas. & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Bros & Co, Akron, O

Pipe Wooden).
American District Steam Co, Lockport, N Y
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila P
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

ADVERTISERS' CLASSIFIED DIRECTORY.

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Pipe Line Supplies.
Ogden, J Edward Co, 141 Cedar st, New York

Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Brass Works, Cascade st, Erie, Pa
Crow, J B, & Sons, Lake and Franklin sts, Chicago
Miliar, Chas, & Son, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Columbus Pneumatic Tool Co, Columbus, Ohio
General Pneumatic Tool Co., Moutour Falls, N Y
Reiwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chicago
Case Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Press (Artificial Stone).
Palmer, Noyes F, 130 Snediker ave Brooklyn, N Y

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark J C, Box 525, Atlanta, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 170 Broadway, New York
Newett Mfg Co, 149 Broadway, New York
Smidth, F L & Co, 66 Maiden lane, New York
West Pulverizing Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Crow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 170 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Kingsford Foundry & Machine Works, Oswego, N Y
Lawrence Machine Co, Lawrence, Mass
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 15th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 180 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm. E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Scranton Steam Pump Co, Scranton, Pa
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Pets & Co, Henry, 66-68 Broad st, New York

Pumps (Rotary).
Connersville Blower Co, Connersville, Ind

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 135 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 300 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co Cotton Exch bldg, N Y

Rails (Relaying).
Continental Equipment Co, 5-17 Battery Place, N Y
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 902 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 38 Market st, San Francisco

Rails (Steel).
Baumgardt & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Mates Co, Ætna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 126 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Gerard ave, New York
General Pneumatic Tool Co, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Oastler, W C, 157 Fifth ave, New York
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 126 Liberty st, New York
Stuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 126 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Liberty st, N Y
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Rolling Doors, Partitions, etc. (Steel)
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 103 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 13 Park Row, New York

Schools (Correspondence).
Am. School at Armour Inst of Tech, Chicago
(For Directory of Engineering Schools see p. 4.

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Shuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Colmbus, O
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
Plenty, Josephus, Jersey City, N J
Valle & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A 35 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 35 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 594 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Tacks, Thumb
Albrecht, C. R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal.
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 9th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Stamford, Conn

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Conn

Time Detectors.
Am Watchmen's Time Detector Co, 234 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Tracing Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place, N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton, O
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1221 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Cornersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Miliar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Sweet & Doyle, Cohoes, N Y
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio
Tucker & Vinton, 156 Fifth ave, New York

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Auburn Wagon Co, Martinsburg, W. Va
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa.
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
Kennicott Water Soft Co, 408 Great North. bldg, Chic
N Y Continental Jewell Filtration Co, 15 Broad st, N Y
Patterson, D W, Harrison bldg, Philadelphia, Pa
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co. Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 15th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila

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